21

CONSULTANT'S STUDY:
LIVING DOWNTOWN IN TORONTO
VOLUME 1: REPORT

Cityplan '91

City of Toronto
Planning &
Development
Department

Robert E. Millward
Commissioner

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December 1990

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Prepared for the City of Toronto Planning
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City of Toronto
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Robert E. Millward
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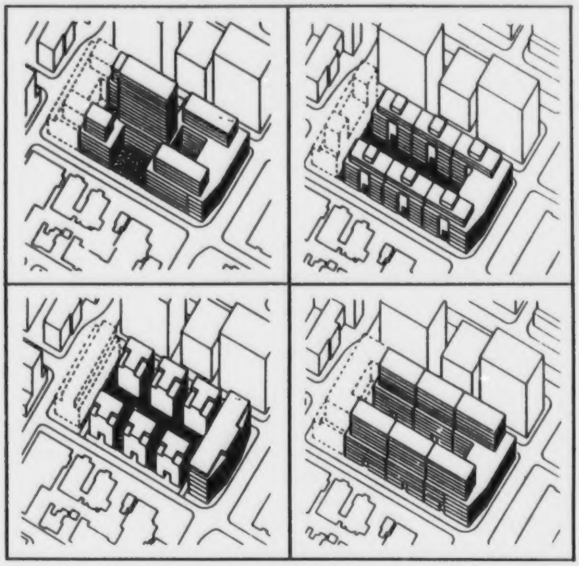
LIVING DOWNTOWN
IN TORONTO

CITY OF TORONTO



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THE APPROACH

New rules for mixed-use development

Living Downtown in Toronto reviews the rules under which residential and mixed-use buildings are developed in the downtown. This report forms part of Cityplan '91, a process of study leading to a new Official Plan for the City of Toronto's Central Area, its downtown.

Toronto's downtown has not achieved potential distinction

There is a consensus in Toronto that we want a vibrant and alive downtown and a mix of residential and other uses. Yet, there is ambivalence about its emerging physical form. The public perception is that Toronto's downtown is not achieving excellence as a physical setting; buildings fail to create an interesting and attractive urban streetscape worthy of a major metropolis such as Toronto. Many new buildings are inappropriately designed and do not achieve a coherent downtown fabric. There is considerable debate about the scale and height of buildings, how they relate to the sidewalk and the street, and the need for open space.

There is public satisfaction with development in existing neighbourhoods

Contrast the uncertainty in the downtown with the consensus which exists about the form of Toronto's older residential neighbourhoods. The typical neighbourhood street reveals a consistency of building types. There is public satisfaction with the houses and the retail stores which are the molecules from which the neighbourhood fabric is created. The source of our satisfaction with older neighbourhood building types lies in the resolution of the relationship between the private building and the public realm, as well as the relationship of one private building to the next.

Existing rules do not ensure appropriate built form in the downtown

The root of the problem in Toronto's downtown lies in the fact that no publicly acceptable new *models* describing the form of the city and its constituent parts, individual high-rise residential and mixed-use buildings, have emerged. The current regulations fail to define an acceptable and predictable relationship to the public street or to the adjacent buildings, as is the case of the house or the retail strip building in the neighbourhoods. The existing regulations are not only difficult to understand but are also inadequate to ensure appropriate building form. This lack of clarity leads to uncertainty on the part both of the owner and on the general public, each of whom have no bench-mark for their expectations.

The City should define the public expectations

The time is ripe for the City to take a proactive and prescriptive approach rather than a reactive and restrictive one in planning for the downtown. There is a strong desire from all sides of the industry for a clearer definition of *what the public wants*, so that architects and developers can respond to a known direction from the outset and try to design buildings within a clearly defined public context.

A two step regulatory process

In this report, we offer a means of both defining and regulating public expectations of development. We propose a new two-step regulatory process which, in the short term, would put in place a set of *base zoning regulations* to define an acceptable and clearly understandable level of as-of-right development. In the longer term, our proposals would initiate a public process geared to developing a consensus on the form of development for Toronto's downtown through *urban design plans*.

New base as-of-right zoning regulations

In formulating new regulations for the base as-of-right level of development, it is intended to shift the focus to the public realm and to the issues of *design and environment*. The scale of as-of-right development would be limited to the point at which it can be anticipated with confidence. The intent behind the base as-of-right regulations is to ensure that there are predictable built form results within the public realm, a variety of architectural expression and adequate microclimatic conditions. The regulations must be clear and understandable in terms of the outcomes they seek to define.

Urban design plans provide a public process for evaluation

The scale of development defined in the base zoning will not be appropriate for all of the downtown. To achieve increased development potential designated in the Official Plan, urban design plans would be necessary. Such a process would enable development proposals to be examined on the basis of present and future contexts, and not merely on their own terms. Urban design plans would define in three dimensions the anticipated built form vision for the streets and blocks in question. They would illustrate the relationship between the street and the building, the pedestrian and vehicular circulation, the overall height and massing of the buildings and the open spaces. These plans would be illustrated in three dimensions so that they can be easily understood and discussed with the public. They would form the basis for subsequent changes to the base zoning.

THE POLICIES

Within the approach described above, this report examined each of the policy areas which form the basis of a system of land use regulation.

Mixed-Use

Mixed-use development should remain a central theme in the downtown

Toronto's policy of encouraging residential development throughout all parts of the downtown is considered to be both appropriate and desirable. Housing downtown serves a number of purposes. It allows people to live in close proximity to work and other activities. It promotes vitality, activity and safety at all times of the day and night. It is environmentally appropriate in that it reduces dependence on the automobile and encourages walking or cycling and the use of public transit. It offers an appropriate location for a certain style of urban living usually associated with high population concentrations and active street life.

Mixed-use office areas

Mixed-use buildings should continue to be encouraged within areas of commercial concentration (*mixed-use office areas*). The kind of housing developed in these locations is likely to be expensive and geared to the luxury end of the market. In this type of district, the City should encourage major office buildings which also contain a residential component in the upper portions of the same tower.

Mixed-use residential areas

In the majority of the downtown, residential use will usually predominate *(mixed-use residential areas*). Buildings would be developed as primarily residential with smaller office components on the lower floors and retail at grade. Residential use in these buildings would cater to a much wider range of housing, including social housing.

Built Form and Density

Built form must be taken into account when establishing density levels

The appropriate intensity of development for a particular property, street or neighbourhood is generally established as a result of the application of a number of planning principles. These principles include such matters as the accessibility of the property by road and transit, the capacity of the hard services and the availability of other amenities such as parks and schools. Critical issues which must be taken into account when establishing density levels are those which relate directly with how the building relates physically to its surroundings. These are the questions of built form which define the building on its site, its relationship to the immediate neighbours, the street and, ultimately, the neighbourhood.

Rules must shift from density and land use to built form control

Density is a critical variable in determining building scale, yet density alone does not provide built form direction; it must be combined with controls over height, location of the building on the property and other regulations to ensure appropriate built form results. If we are to achieve the objective of a predictable built form in downtown Toronto, the focus of our controls must expand from sole consideration of density and land use to include issues related to built form.

The uph system should be eliminated

The primary result of the unit per hectare (uph) system has been the creation of buildings which are much larger and bulkier than they would have been if the mixing formula constant had been a maximum floor space index (fsi) limit for the property. The new regulations should no longer be based on the units per hectare system, but should revert to a system which will ensure the bulk intended for a property is the bulk that is built, unless it is intentionally amended.

Building height should be the primary instrument of control

There are a number of advantages in using height as a determining factor in built form. Through the control of height, one is able to minimize the tangible impacts of development on the quality of the public realm in terms of microclimatic conditions, such as the amount of sun on the sidewalks and the effect of wind conditions. The height of a building has a strong visual impact as well. Building height is a concept which can be readily understood by the general public, especially if height limits are established in terms of storeys rather than metres. Storeys can be used as a point of comparison by anyone simply by looking at other buildings within the existing cityscape.

Setting height and density levels in the base zoning

For the *mixed-use residential areas,* it is possible to establish appropriate relationships between height and density. Height and density pairings are proposed for the base zoning. Several consistently repeatable and satisfactory building types were identified in the 6 storey/2.0 fsi; 8 storey/3.0 fsi; and 10 storey/4.0 fsi ranges. Beyond the 10 storey/4.0 fsi upper threshold, the repeatability of appropriate building types breaks down. In *mixed-use office areas,* the height and density ratio should reflect the existing or anticipated built form. While height is less critical in these areas, development should be kept as low as practicable. The principle of establishing height/density ratios should, however, be adhered to.

Amending the base zoning

When and where it is intended that the height and/or density for a property exceed the levels set in the base zoning, it becomes essential to consider the proposed built form in relation to its surrounding context. This could represent a reconfiguration of the base zoning or increased development rights. Such additional development potential is to be awarded in the Official Plan based upon the City's long term intended patterns of growth and development. In both of these situations, an urban design plan becomes the instrument for publicly considering such a change.

Land use allocation should be separate from density

The distribution of land uses on the site or within the building is often as important a public issue as the use or density permitted. The location of particular land uses in the downtown should be specified in three dimensional terms in order to achieve urban form objectives. Thus, the control of land use should be more place-specific, defined in relation to meaningful sub-areas of the site or building, in the context of the street or district, rather than by abstract non-place specific density and use rights. The degree of control over the placement of uses may indeed vary by area of the city or by street, according to public goals defined by the City. There are many areas in the city where, from the public perspective, the use makes little difference and could ideally be left flexible for the market to determine.

Public Amenities

Public parks and community facilities are a precondition for the development of housing

The role of community planning is to ensure that housing is complemented by the combination of local amenities needed to make the neighbourhood livable, such as community facilities, services and institutions, open spaces, and cultural facilities. The encouragement of residential development carries with it an obligation on the part of the City to provide the same full range of city parks and public community infrastructure in the downtown as is enjoyed in all residential neighbourhoods.

Decisive action may be needed

Downtown land is becoming increasingly expensive and the opportunities for the City to acquire land for parks will decrease as more land is redeveloped. In extreme cases, the City may have to resort to the powers of expropriation, or use land acquired for the purpose of social housing, to meet the parks needs of downtown residents. These major components of community infrastructure are not benefits which can be anticipated from private developers.

Bonus development rights can be a useful tool

It is neither possible nor desirable to rule out a system of bonusing. There will always be the need to recognize, compensate and actively reward private developers for the achievement of certain social and public objectives. Facilities such as public parks and major community facilities are needed and the land on which to situate them is often in private hands. Acquiring the land is an expensive proposition and there is, therefore, considerable merit to providing incentives for developers to incorporate such facilities within a larger mixed-use development. The most effective incentive is the provision of a bonus.

Bonuses should be used sparingly

The application of a bonus should be seen as a rarely used regulatory tool reserved for matters of obvious public importance. Any proposed bonus should be understood as requiring careful public evaluation through an urban design plan. The as-of-right zoning will serve as the base; the urban design plan would offer a public vision as to how the bonus will alter the base condition. In this way, the public focus on built form is maintained while considering additional development rights.

Social and market housing should be treated in the same ways

There should be as little as possible to distinguish between income status of housing in terms of the land market or the development's place in the city. Social housing is different from other issues of bonusing because a great deal of such housing is sought and the built form implications of bonusing in many locations can be negative. Additional development potential and different standards may stigmatize social housing and create a fundamental breakdown in the rationale for the appropriate level of development awarded a particular property. The physical implications of policies to create or require social housing should apply equally to all properties.

Open Space

There should be more open space than is currently provided in downtown. This open space can take two forms: that which is located on a private development site which may or may not be publicly accessible; and larger consolidated parcels which constitute parks or parkettes and are in public ownership. Open space cannot be identified as part of the base as-of-right regulations applicable to all property across the downtown. Instead, it needs to be identified through the urban design plan process for a particular district, street or even a large development. Since the creation of significant public park space is so important and so difficult to achieve in the downtown, the awarding of additional height and/or density as an incentive to private development is warranted.

Major community and recreation facilities

Community services and recreational facilities which tend to be large scale, cater to large groups of people and are expensive, such as swimming pools, sporting facilities and libraries, are generally provided by the City in residential neighbourhoods. These are equally a necessity in the downtown and must be provided by the City; like schools, these types of facilities should be a precondition for development rather than an afterthought. Land for a major public community facility is often difficult to acquire in the downtown and some of these facilities would function best as part of a mixed-use development, which may be private. Provision should be made in the regulations for the awarding of a bonus in return for the public facility when it occurs. Such a bonus is likely to be sufficiently rare that its parameters can be clearly established in the Official Plan, and its implementation conditional upon a rezoning and an urban design plan.

Major recreation facilities should not be required

The provision of common recreational facilities, in the form of a swimming pool, gym, or exercise room, substantially raises the building cost and consequently the price of the unit. Their continuous and ever increasing maintenance fees add to residents' monthly costs. Since only a small number of residents, in effect, use these services, and the City theoretically provides such recreational services from municipal taxes, these private facilities should not be required in each building.

Open/enclosed space for children's play or quiet recreation should be required

The residents in each private residential building continue to have some basic needs which should be provided in each building. The most critical is open space where residents can enjoy the outdoors. Children and seniors are the two most vulnerable groups who would find it difficult to seek open space away from their home. Thus, the most important need is for some space in which children can play and seniors can sit. There should be a requirement for landscaped open space, a portion of which should be contiguous and enclosed for winter and inclement weather.

A meeting room should be required

Another basic need in individual buildings is communal meeting space. This type of space was found to play an important social function in allowing residents to get together for administrative, political or social functions. The meeting room is integral to the development of a sense of community, by affording residents the opportunity and the place to get together, in a certain sense replacing the church basement or school gym of the neighbourhoods.

Balconies should no longer be required

Balconies should be considered an amenity and a signal of residential use within the city. In this way, they should be permitted, but not required, in open balcony form, without being counted as part of density. Enclosed balconies should, on the other hand, be included as part of density, as their provision adds to the bulk and the general massing of the building.

CONCLUSION

There is a wide variety of built form existing in Toronto's downtown of different quality, time period and scale. It presents an uneven context for new rules. This raises the question of whether it is too late to change direction now and insert a new set of rules which try to achieve a more ordered, predictable and understandable direction for development.

Toronto's downtown has been undergoing rapid development over the past years without any consensus in either the public or private sectors as to what it should look like. It is precisely for this reason that we propose a change in direction. This new approach specifically addresses the question of appropriate built form for the future in relation to what already exists.

In this way, we hope to clarify the debate about downtown development. The focus is on the public realm and the needs of downtown residents. We aim to bring the same level of public understanding and concern that is found in older neighbourhoods, to bear on the downtown. We offer a set of rules that will be simple to understand in terms of their physical results, and a process to manage change which will clearly and publicly address matters of physical appearance and impact on the public realm. The aim is to bring about public consensus on the evolution of Toronto's downtown.

LIVING DOWNTOWN IN TORONTO
TABLE OF CONTENTS

Page No.

1. INTRODUCTION *1*

1.1. Purpose **1**

1.1.1. The Terms of Reference *1*

1.2. Methodology **2**
1.3. The Present System of Regulation **3**

1.3.1. The System Prior to the Central Area Plan *3*
1.3.2. The Recommendations of the Core Area Housing Study *4*
1.3.3. The Central Area Plan *5*
1.3.4. Issues Arising from the 1976 Plan *6*

2. THE DEBATE OVER DOWNTOWN DEVELOPMENT *9*

3. MIXED-USE DEVELOPMENT *13*

3.1. Case Studies **13**

3.1.1. Review of Other North American Cities *14*

3.2. The Approach in Toronto **16**
3.3. Towards New Regulations **18**

3.3.1. Different Districts Require Different Approaches *19*

4. BUILT FORM AND DENSITY: A NEW APPROACH *23*

4.1. Consensus About Design and Environment **23**
4.2. The Origins of Built Form in Downtown **26**
4.3. Downtown Since The 1976 Plan **28**
4.4. A Regulatory Approach for the Downtown **29**

4.4.1. New Base As-of-Right Regulations *29*
4.4.2. The Urban Design Plan *30*

5. BUILT FORM AND DENSITY: THE POLICIES 35

5.1. Absolute Limits on Density 35
5.2. Built Form and Density Cannot be Separated 37
5.3. Density Control: Units Per Hectare vs. Floor Space Index 39
5.4. Unit Controls 41
5.5. Microclimate 42
5.6. Built Form Controls 45

5.6.1. The Buildings We Studied 45
5.6.2. Height Limits 48
5.6.3. Setbacks 50
5.6.4. Lot Coverage 51
5.6.5. Lot Size 51

6. REGULATING LAND USE 55

6.1. From the Buildings We Studied 55
6.2. The Approach in Toronto 55

7. OPEN SPACE AND RECREATION 59

7.1. From the Buildings We Studied 59
7.2. From the Cities We Studied 62
7.3. The Approach in Toronto 64

7.3.1. Public Open Space 64
7.3.2. Recreational Facilities 65
7.3.3. Balconies 68

8. SOCIAL OBJECTIVES AND BONUSING 71

8.1. From the Cities We Studied 71
8.2. Since the 1976 Plan 71
8.3. Understanding Bonusing 72
8.4. Establishing a Context for Value and Equity 73

9. IMPLEMENTATION 77

9.1. Preconditions for Residential Development in the Downtown 77
9.2. The Base As-of-Right Regulations 78

9.2.1. Height and Density 78
9.2.2. A Variety of Zoning Designations and Land Uses 82
9.2.3. Recreational Facilities 85

9.3. The Urban Design Plan 86
9.4. Is it Too Late to Change Directions? 88
9.5. The Next Steps 89

ILLUSTRATION CREDITS 91

BIBLIOGRAPHY 93

CHAPTER 1

INTRODUCTION

1. INTRODUCTION

1.1. Purpose

Toronto is currently at a crossroads of growth and change. Development during the last decade has had significant physical, social and environmental impacts, most notably within the City's downtown.

The City is currently assessing these changes in its Cityplan '91 review of the Official Plan for the Central Area. As part of the Cityplan process, it is the mandate of this study to review the current Official Plan regulations governing residential development in the downtown, specifically in the mixed-use zones, and to make recommendations for a new set of regulations which would govern mixed-use developments in downtown Toronto.

1.1.1. The Terms of Reference

According to the Terms of Reference, the Living Downtown study is intended to assist the Department of Planning and Development review and, as appropriate, make recommendations respecting regulations for residential development in the mixed commercial/residential areas of Toronto's downtown. The study is based on an analysis of the controls introduced in 1976 to regulate density, amenity levels and built form in these areas, and the problems associated with those controls.

The main problem areas defined in the Terms of Reference are the increasing land values, precedents of earlier approvals and pressure for residential intensification, all of which have contributed to higher residential densities in Toronto's central core.

Since these pressures are likely to continue into the future, issues dealing with residential standards will become even more important. In order to address these issues, specific questions were asked in the Terms of Reference about the present system: Have the policies in the 1976 Central Area Plan and modifications made since that time produced sound building types with the appropriate amount and type of amenity space? Are the high density residential projects, like the ones on Bay Street, consistent with acceptable standards of livability? Can individual sites be developed at higher densities if they are surrounded by low density areas? What are the impacts of high density residential development on the surrounding streets, parks and neighbourhood? What factors mediate between density and livability? Are high residential densities more acceptable in medium-rise buildings than high-rise towers? Are high residential densities less suitable for social housing and, if so, should there be different density and development standards for social housing?

In order to address these questions, the following areas of study were identified in the Terms of Reference:

a) an analysis of the existing controls (Zoning By-law and Building Code) on residential development in mixed-use areas with reference to case studies of specific buildings and built-up areas which these controls have produced since the CR districts were introduced in 1976;

b) a clear and concise statement of the problems (respecting density, built form, quality and character of the neighbourhoods created, and amenity levels) revealed by the analysis above, which could be addressed by revisions to existing controls;

c) a review of residential planning controls used by other North American cities and their effectiveness in addressing issues of livability; and,

d) alternatives to Toronto's residential zoning and other controls for mixed-use districts (including, but not limited to, recommendations on the units per hectare (uph)/floor space index (fsi) options and recreation requirements).

Also included is a description of the implications of these alternative zoning techniques respecting quality of life for the apartment dweller, built form of residential buildings and their impacts on the surrounding neighbourhood, the operation of the housing market, policy objectives for mixed-use areas emerging from the 1991 Plan Review and the ease of interpretation and use of the controls.

1.2. Methodology

In order to achieve the study objectives and develop proposals for new regulations, a number of tasks were undertaken. First, and perhaps most important, was the elaboration of a series of general principles for guiding the regulation of residential development downtown, which provided direction for the research (see Appendix I). The effectiveness of regulations in adhering to these principles was then assessed through the analysis of eleven case study buildings constructed under current controls (see Appendix IV). Concurrently, a comparative evaluation of housing objectives and zoning regulations in six other major North American cities was undertaken (see Appendix III). This information was supplemented with the insights, experiences and suggestions of key agents in housing production in downtown Toronto, through ongoing discussions with City officials, architects, housing experts, private developers, non-profit developers and residents. From this extensive data base, the alternatives to Toronto's present regulatory system and their implications were defined.

The results of this analysis are contained in this report. Greater detail on each of the component parts of this study is provided in accompanying Appendix reports.

The Report

The report is divided into sections relating to the major issues to be addressed in the analysis. This introduction is completed with an explanation of how the regulatory system has evolved to this point in time. *Chapter 2* sets the stage for our approach to the whole issue of regulation in the downtown. *Chapter 3* analyzes the principles and realities of developing housing within a mixed-use context. *Chapters 4 and 5* encompass a detailed study of the built form issues to be dealt with in Toronto (building case studies and by-law assessment) and in six other North American cities (analysis of their by-laws). These matters are discussed from the perspective of the approach (Chapter 4) and the policies (Chapter 5). In *Chapter 6*, the question of land use is discussed, in *Chapter 7*, the issues of open space and recreation, and in *Chapter 8*, social objectives and bonusing. *Chapter 9* completes the report by pulling together all the recommendations to form the framework of a system of regulation.

1.3. The Present System of Regulation

1.3.1. The System Prior to the Central Area Plan

The Core Area Housing Study was commissioned in the 1970s in response to a desire to increase the amount of housing in the downtown core of the City of Toronto. It found a situation that was common to North American cities at the time: the growth and development of the downtown commercial core had led to a decline in the amount of low density housing there, and the housing development that did occur had to be at increasingly higher densities given the high cost of downtown land. The growth of high-rise apartment accommodation was encouraged by the zoning then in place, but appeared to destabilize neighbourhoods and drive families from the downtown.

The study pointed out that the loss of residents in the downtown reduced the diversity of the area. This lack of diversity prevented a more efficient use of City resources, such as land, regional transportation systems and other infrastructure. At the same time, it was felt that within the Metropolitan Toronto area, there was a tremendous lack of available housing, specifically housing for families and low income groups. Since the beginning of the 1970s, there had been virtually no production of rental housing by the private or the public sectors. It was concluded that increased public intervention was required to ensure that housing was built in the downtown area.

Though residential uses were always among the permitted uses in the commercial districts of the downtown, they were not produced there for a number of reasons that stemmed, in part, from the regulatory system in place at the time.

One of the basic problems perceived was that in commercial areas, permitted residential development rights were significantly less than those for commercial uses. Furthermore, the mechanism for measuring density at the time, the floor space index (fsi), was seen as a part of the problem in that it appeared to promote a type of housing that the City of Toronto was concerned about at the time, i.e. apartment buildings with small units. The Central Area Plan Review "Proposals" (October 1975) reported that:

> Although this [fsi] is a clear measure of the extent of development, it is of limited use in its application to residential buildings. It has tended to encourage the provision of smaller units, as more of them can be provided within a given area. Generally, given a fixed building site, the more small units a building contains, the higher the return. Employing a floor space index as a measure of control has not only encouraged the provision of units with fewer bedrooms, but it has also provided an incentive to reduce the size of dwelling units, corridors and other shared space... (p.B2-45)

The City was also concerned that buildings with virtually no amenities were being constructed under the provisions of the by-law. There was an essential problem with the extreme difference in the standards applying to residential units located in commercial versus residential zones. The residential standards were seen to be too rigid for an urban situation and the commercial standards were felt to be too lax, so the City sought to develop a new system to regulate residential and commercial development in the downtown.

1.3.2. The Recommendations of the Core Area Housing Study

The most fundamental recommendation of the *Core Area Housing Study* that more housing should be encouraged in the downtown core and that this housing should be located in areas where it had not traditionally been located, such as under-utilized commercial and industrial areas.

The study adopted the goals of a previous study entitled *Living Room: An Approach to Home Banking and Land Banking for the City of Toronto* (1973), which recommended that the City aim to produce 4,000 units of housing a year. It took these goals a step further by suggesting that half of these units should be produced in the Core Area.

It further recommended that the City should be concerned with the kind of accommodation that was being provided for downtown residents and that a new regulatory system should reflect user needs:

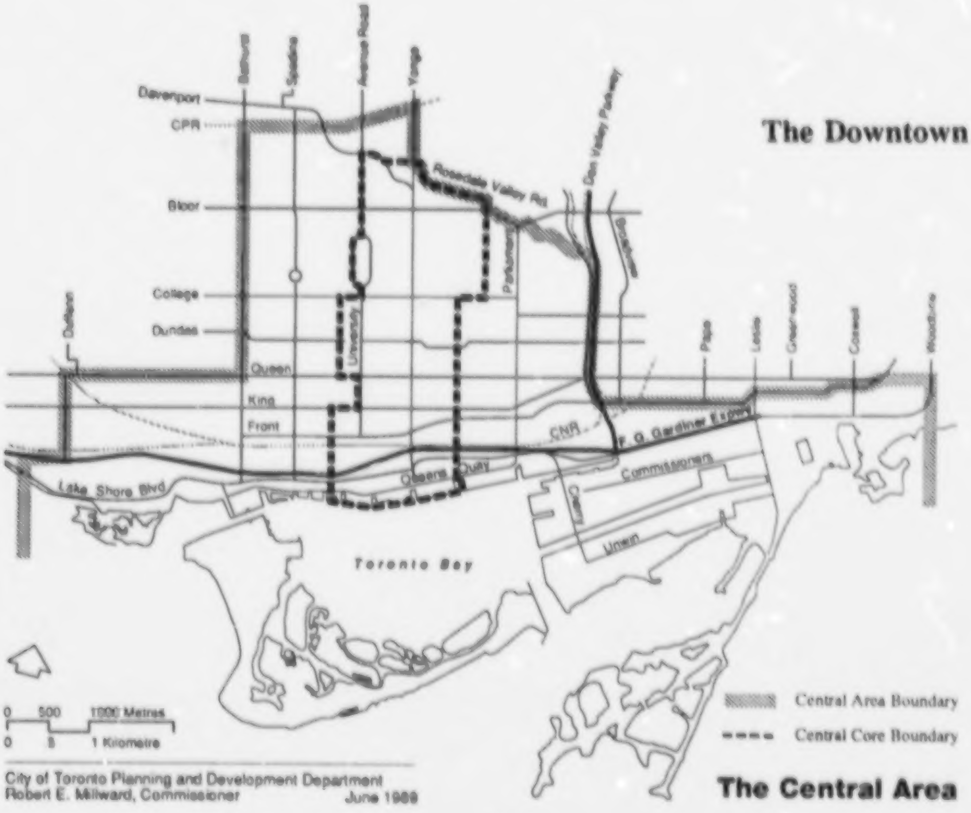
> More importantly, the overall system should provide a better vehicle for the implementation of public objectives in housing. The City is concerned about more than the quantity or bulk of housing to be provided. It is concerned about the kind of housing to be produced, and who is to be housed. Since the proposed system of regulation is based upon the needs of the user, it is capable of being employed as a means of implementing City housing policy. (p.117)

Furthermore, the study expressed the need to attend to the quality of the urban environment and the efficient use of urban infrastructure. Therefore, it recommended measures which would implement units per hectare (uph) limits, the efficient mixing of land uses, minimum assisted housing quotas and recreation space requirements.

1.3.3. *The Central Area Plan*

In 1976, Toronto City Council enacted the Central Area Plan, the most basic tenet of which was the encouragement of residential development in the Central Area. A target of 30,000 new housing units was established for the Central Area by 1985, to be developed largely in the previous commercial zones, which were redesignated for mixed commercial/residential uses. The existing residential areas in the downtown area were to be preserved to the greatest extent possible, hence the retention in these areas of purely residential (R) zoning.

The focus of the 1976 Plan was not only to encourage housing downtown in general, but to facilitate the provision of housing for low to moderate income households as well as for families. In fact, half of the targeted units were to be for low to moderate income households and one sixth were to be suitable for families.


The Downtown
Davenport
CPR
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College
Dundas
Dufferin
Bathurst
Spadina
Avenue Road
Yonge
Rosedale Valley Rd
Don Valley Parkway
Parliament
Broadview
University
Queen
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Central Area Boundary
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City of Toronto Planning and Development Department
Robert E. Millward, Commissioner June 1988

The Central Area

Density

The Central Area Plan refined the *Core Area Housing Study*'s proposed table of permitted densities into an equation which produces different density limits for commercial, residential and mixed commercial/residential developments, depending on the district.

The policies of the Plan permit the construction of purely residential buildings up to a given uph limit, a purely commercial building up to a given floor space index limit, and mixed-use buildings subject to a mixing formula. Additional residential density of 25 percent more units was permitted if the project contained social housing or "special housing" for seniors, handicapped or single persons.

Furthermore, the 1976 Plan completely changed the regulations for the provision of recreation space in private developments. The definition of landscaped open space was replaced with a definition of recreation space. Minimum personal and shared recreation space requirements were set out according to unit number and size.

Urban Design

As recommended by the *Core Area Housing Study*, no policies to secure "good" urban design were included in the Central Area Plan. The recommendations of the study proposedan advisory or guideline approach to urban design. Height was the only issue for which it was concluded that a regulatory approach should be followed. Consequently, only height limitations were included in the Zoning By-law.

The reasoning for this minimalist approach to regulating design matters was discussed in the *Core Area Housing Study*:

> We are not persuaded that additional [to Section 40 of the Planning Act] design control powers in respect of new buildings are either desirable or necessary in the Core Area. The rejection of a building design at the site approvals stage -- i.e. immediately before issuance of a building permit and after working drawings have been completed -- could well occasion significant delays in development. Such delays could well make the achievement of the City's housing production targets difficult to attain. Therefore, we make no recommendations for legislative change in this area. (p. 229)

Clearly, the primary concern at that time was the encouragement of housing downtown rather than controlling built form.

1.3.4. Issues Arising from the 1976 Plan

Density

A problem concerning density began to emerge with the implementation of the uph system. It became evident in a market supporting large luxury condominium units that the average unit size was well in excess of the assumed 100 square metres. Therefore, large unit sizes and, consequently, unexpected bulk resulted.

In 1983, after a number of years' experience with the uph system, a review was conducted which acknowledged that it might, in fact, have a bias towards larger units. This bias was acting as a disincentive to the provision of smaller units despite a demand for them. The study also indicated that actual family occupancy of the new condominium units was low. In addition, the combination of larger unit sizes and limitations on the number of units that could be produced made it more difficult for social housing producers, even with the extra incentives provided for social housing under the Zoning By-law.

The conclusion drawn was that the uph system should be changed to provide sufficient flexibility to provide smaller units. Ultimately, the "fsi option" was introduced in some CR districts. The fsi option places a limit on the bulk of a building, but permits as many residential units as a developer chooses, subject to a minimum unit size of 50 square metres. In the case of a mixed-use building, the commercial floor space is capped and residential units may make up the remaining space.

The large bulk which resulted from the application of the uph system in many recent developments downtown, notably on Bay Street, has aroused general concern regarding the intensity of development and its environmental implications and has brought into question the Central Area Plan's minimalist approach to built form issues.

Moreover, the introduction of the fsi system has now provided justification for a number of applications to allow a greater number of units within the built form envelope of buildings already approved under the uph system.

Recreation Space and Balconies

With regard to open space, recreation space and balconies, a number of issues have arisen since the implementation of the 1976 Plan.

It is generally agreed that amenity space should be provided in residential and mixed-use projects. However, it is argued that the present regulation requires the provision of too much shared recreation space, as illustrated by successful applications for rezonings or minor variances to reduce the required amenity space in Core Area developments.

UPH bulk exceeded the anticipated medium density for the area.

Moreover, the definition of personal recreation space and how it should be provided has become an issue. Currently, both open and enclosed balconies are excluded from the definition of gross floor area. In recent years, condominium developers have taken advantage of ambiguities in the zoning definition of "enclosed balcony" and have built and even marketed this recreation area as habitable space within the unit.

This issue of recreation space not only relates to the question of amenities required to ensure "livability" of downtown accommodation, but also reinforces concern regarding built form and the physical structure of the City through the addition of increased bulk to accommodate enclosed balconies and recreation areas. This concern regarding both the social and the built form implications of development underlies the thrust of the City's review of the current regulatory system.

2. THE DEBATE OVER DOWNTOWN DEVELOPMENT

With residential development firmly established in the downtown, the 1991 Plan now aims to take the City's previous objective one step further by ensuring that mixed-use development creates a pleasing, environmentally appropriate and socially balanced city.

The Cityplan '91 Task Force report *Goals and Principles for a New Official Plan* eloquently summarizes the issues to be dealt with in the formulation of a new Central Area Plan:

> Rather than becoming entirely focused upon density numbers, it is necessary to consider how those numbers are translated into the wind at our backs, the sun upon our face, the quiet joy of a lovely streetscape or the human satisfactions that flow on streets that are genuine social spaces. As well as reviewing permitted development densities, we have emphasized the need for a revised plan to control the massing and heights of buildings in terms of light, wind and view impacts and to consider the effects of development upon open space and street life. (p. 4)

This new emphasis on environmental impacts and quality of life issues arises largely in response to what the general public has perceived as excesses of development in Toronto in the last decade; buildings are felt to be too high, too ugly and accompanied by insufficient open areas and greenery. Concern is heightened by the impression that the public is unclear about the benefits achieved from increasing development rights.

Buildings fail to create an interesting and attractive urban streetscape.

The debate about appropriate directions for future development in Toronto's downtown is centred on two basic questions: first, the issue of *design and environment*; and second, the question of *value and equity*.

The Question of Design and Environment

On the question of *design and environment*, there is a public perception that Toronto's downtown has not reached its potential due to the poor design of many of its buildings, which are felt to be too dense, too high, poorly related to the public domain and inappropriately designed to achieve a coherent downtown fabric. There is frustration that existing zoning regulations are not only difficult to comprehend in terms of their built form implications, but also inadequate to ensure appropriate building form.

From another perspective, building developers seek flexibility both to create a marketable product, often described in terms of the qualities of the private housing unit, as well as to ensure an economically designed development. There is frustration over the fact that built form objectives are not systematically set out, but are achieved on a seemingly ad hoc and discretionary basis under the guise of development review. This lack of clarity leads to uncertainty not only on the part of the owner, but also on the part of the general public, which has no bench-mark for expectations.The existing regulations do not provide enough guidance for either the general public or the development industry to have a clear understanding of the built form and the environmental impacts which will emerge from their application. This leads to confusion, uncertainty, and dissatisfaction.

The Question of Value and Equity

The second question, about *value and equity*, deals primarily with property values and the private and public expectations which arise out of the success of Toronto's growth and development over the past thirty years. Land values have risen dramatically in downtown Toronto due to the continued successful growth of the City and the shortage of land which is designated for high intensity development.

Land owners usually seek to maximize their proposed developments and capitalize on their investments by seeking additional development rights on their property. The public sector in turn, aware of the considerable values which it participates in creating, seeks to share in the value being created by extracting contributions towards the resolution of social needs such as social housing or public infrastructure such as parks.

Determining equity and the value to be extracted has been complex and technical in the past. Negotiations to derive these values have usually been done on a site specific basis with no guidelines or parameters with which to gauge the merits of the exchange between built form and public benefit. Trade-offs have been made as to the quality of the physical environment in order to achieve social benefits which are not necessarily understandable, thereby arousing public concern.

Clarifying the Debate

In order to offer a direction for redevelopment in downtown Toronto, it is necessary to intervene in this debate and untangle the interconnections between these two questions. This must be done in such a way as to assist the public understanding of both the process and the outcome. The lack of clarity in the current regulations with respect to the issues of *design and environment* invites confusion. From the land owner's point of view, uncertainty about what built form objectives or extra development rights the City might deem appropriate for a site leads to a long and frustrating negotiation and creates a related uncertainty about value. From the public point of view, it is not possible to evaluate how the awarding of more development rights will distort the original expectations for the site or the area.

Because the two dimensions of the debate have been so intermingled, much of the recent discussion about downtown development has focused on the *equity* of this process, over whom the development is serving, the need for public benefits and the methods for dividing up the pie, rather than on *design and environment.*

If increasing public concern regarding the "livability" of the City is to be addressed, the focus must shift to the question of *design and environment.* The new regulations must be based on a public consensus about the kind of city we intend Toronto to become. This consensus, once codified, should become the easily understandable basis for development within Toronto's downtown.

The set of rules dealing with the question of *value and equity* must build upon that basis. The rules should be simple, easily understandable and, ideally, generally applicable throughout the downtown. The outcomes resulting from the private/public sector dealings over *value and equity* must be easily debatable and evaluated in terms of their physical implications on design and environment.

Recommendations:

2. i) *The regulations governing physical development should be clear and easy to understand and should have recognized built form and environmental implications.*

ii) *The rules for granting increased development rights should be easy to evaluate in terms of their physical implications and clear and easy to understand.*

CHAPTER 3

MIXED-USE DEVELOPMENT

3. MIXED-USE DEVELOPMENT

The first issue which must be dealt with in establishing new regulations for downtown Toronto is to reconsider the critical policy thrust of the previous Official Plan known as the 1976 Central Area Plan, that is, the policy of encouraging mixed-use development.

The assumption that underpins this entire study is that it continues to be appropriate to mix land uses in Toronto's downtown. While we have not attempted to answer the question empirically, we found that the assumption was strongly supported by all groups with whom we spoke. The mix of land uses now found in Toronto's downtown makes it unique among North American cities, reminiscent of the finest European cities.

Mixed-use in Toronto

Residential uses were once found in downtown locations in most North American cities. However, in this century the drive to completely separate land uses through the implementation of zoning by-laws successfully reversed the historical trend and created predominantly single-use downtowns. In recent years, it has been recognized that the objective of separating uses may be functionally impossible, but more important, undesirable with respect to the best use and efficiency of a city.

3.1. Case Studies

In order to gain an overview of the prevalence and success of mixed-use development, we reviewed the situation in six other North American cities as well as in Toronto.

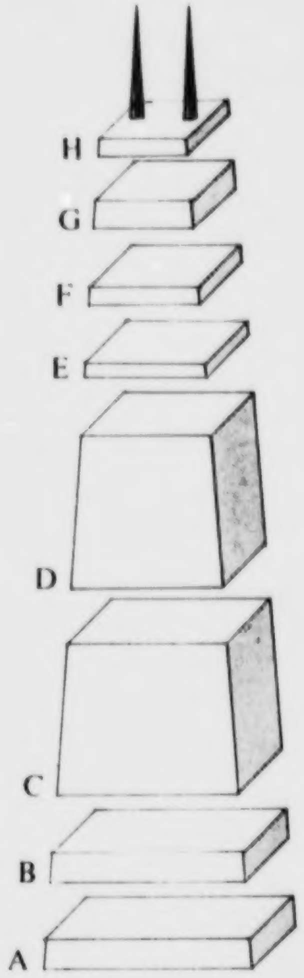
3.1.1. Review of Other North American Cities

The by-laws of Boston, Calgary, Chicago, New York, San Francisco and Vancouver were analyzed in order to compare the different approaches to mixed-use zoning in their downtowns.

All of the cities studied permit mixed uses within their downtowns. In those cities with Official Plans, design guidelines or other policy documents, this is an explicitly stated objective. In each city, residential uses are permitted in the commercial or business districts. However, to build residential buildings would usually mean doing so at the expense of commercial development rights, as was the case in Toronto prior to the 1976 Central Area Plan.

While mixed-use buildings are permitted within the downtown of all the case study cities, development continues to be predominantly in single-use buildings. In high density residential districts, mixed-use is more common, but the nature of the mix may be limited to uses that are of a convenience to residents, such as convenience retail stores.

Mixed-use development in the downtown is explicitly encouraged in the by-laws of all the cities studied except for Chicago and Calgary. The latter two cities have consequently not benefitted from significant amounts of mixed-use development. Despite this fact, Chicago has been somewhat successful in achieving a mix in some buildings in the high density commercial districts of its downtown. There are a number of examples of major high-rise prestige buildings in which office uses occupy a large part of the building while residential uses are provided above; examples include the Hancock Tower, the new Bloomingdale's and



- A. Stores
- B. Parking
- C. Offices
- D. Apartments
- E. Health Club
- F. Observatory
- G. Restaurant
- H. Television Studios

John Hancock Centre, Chicago

Marshall Field complexes, Watertower Place, and Marina City, now appropriately recognized for its innovation.

Boston, Vancouver, San Francisco and New York all have prescribed tools with which they encourage mixed-use in their downtowns. However, only New York has been truly successful in attracting residential development throughout its downtown. Despite incentives such as increased densities for residential development (Boston), or requirements to construct residential in order to maximize densities (Vancouver), developers choose not to mix uses within a project except for the provision of ground floor retail uses in residential or office buildings. Residential development is simply not economically viable in many downtown areas. It tends to occur primarily in special use districts where residential use is exclusively zoned (Vancouver's West End; San Francisco's Mission Bay and Rincon Hill), or where a specified ratio of residential to non-residential uses is required (San Francisco's Van Ness area).

New York continues to be the most successful at attracting downtown housing development, given that almost all of Manhattan would be considered downtown in Toronto terms. The City has come through a recent housing boom in which a great deal of high density condominium development has occurred. In the Upper East Side, for example, 119 buildings were built or renovated in the high density residential or commercial zones over the period from 1978 to 1988.

The Midtown District is zoned mixed commercial/residential to discourage single-use projects. Though this mixed zoning is not, in itself, an encouragement to residential development, and there exist no other bonus incentives to build residential, housing is built nevertheless. Market demand is very strong and residential development can achieve financial returns similar to those of commercial development. According to City planners, 25 percent of all development in Manhattan over the last 8 years has been residential. In fact, purely residential buildings must be discouraged through coupling urban design guidelines which require commercial at grade to the zoning ordinance.

When mixed-use buildings are developed in the Midtown area, they tend to be predominantly residential, with three to five floors of office space at the bottom of the building. In these circumstances, the commercial space is of a different market level than the single-use office building. It caters to smaller tenants and commands a lower rent.

New York does, however, like Chicago, have some major mixed-use buildings in high density, prestigious areas. The Trump Tower and the City Spire building include several floors of office uses, retail uses and residential uses. Nevertheless, these intensively mixed-use buildings which include a major component of modern office tower space are still considered to be the exception rather than the rule.

A number of conclusions emerge from the analysis of residential development in other cities. First, despite the stated objectives or the permissive zoning of the case study cities, most of these cities had limited success in attracting housing to their downtowns. The extent to which the various cities have been able to achieve this objective is most probably a function of the differential between the returns from residential and commercial development. Specifically, New York has been successful in achieving residential development in its downtown because the returns are as profitable as those for commercial development. In all of the other case study cities, commercial returns are much higher in the downtown, thereby precluding residential development.

Second, the experience of the case study cities reveals a general reluctance on the part of developers to mix significant components of commercial with residential uses, with the notable exception of certain extremely high density prestigious developments in Chicago and New York.

However, discussions with officials in all of the case study cities reinforced the principle of encouraging mixed-use in downtown areas. Many of the cities which have enjoyed limited success in bringing housing to the downtown are now developing new initiatives to encourage residential development.

Different uses in separate buildings

3.2. The Approach in Toronto

In comparison with the case study cities, Toronto has had considerable success in realizing mixed-use development in the downtown. In fact, 30 percent of residential buildings built in the core since 1976 have a significant commercial component.

The range of built mixed-use examples in Toronto now includes developments which contain separate buildings on the same lot for the different uses, such as 92 King Street East; buildings which are divided vertically with offices on the one side and residential on the other, such as 655 Bay Street and 890 Yonge Street; and a growing number of buildings with one use above the other, such as 1132 Bay Street. The acceptance of mixed-use by

Horizontal division of uses

Vertical stacking of uses

the development industry derives in part from the success of the condominium form of tenure in the housing market and from the considerable encouragement given through the existing regulations.

The existing regulations assign development rights on the basis of land use; the residential development rights of a property can only be used for that purpose. In addition, the regulations permit most of the density on a lot to be used for residential purposes, whereas only part of it may be used for commercial purposes. Thus, in order to fully use all the development rights under the present system, a building would be either mixed-use or fully residential.

In addition, the uph system permits the total residential floor space to be expanded depending upon the unit size chosen by the developer, thus offering a potentially large bonus in buildable area for residential use. In the buildings studied which were regulated by the uph system and a mixing formula constant, the total development densities are far in excess of the level one would expect, assuming that the mixing formula constant is equivalent to the fsi. For example, 1132 Bay Street was subject to a mixing formula constant of 7.8, but attained a total density of 13.0 times due to an average unit size of 284 square metres. This increase in actual density above the density value of the mixing formula constant and above the levels which would be permitted for commercial developments is a consistent trait of buildings approved under the uph method.

Although the uph system clearly provides an incentive to develop residential buildings, in fact the extent of "bonus" it yields is a function of the average unit size within the building and is, therefore, not consistent throughout the downtown. The bonus amount varies from project to project, and in fact, in cases with units equivalent or smaller than the average of 100 square metres, this "bonus" does not even apply. Similarly, in districts in which density may be calculated according to the "fsi option", no such "bonus" applies, although a greater number of units are permitted. Therefore, the existing regulations are inconsistent in this respect.

Although we have generally concluded that the principle of mixed-use, as encouraged by the regulatory system and by the strength of the housing market, is well established in Toronto's downtown, there are portions of the downtown which have encountered the same resistance to residential development as the case study cities.

The Financial District is the most obvious case in point. Here, the high office commercial densities compared to the permitted residential

Financial District

development rights, as well as the building form and character of the area, have tended to work against the development of residential use even though it is permitted by the By-law.

This observation leads to the conclusion that different approaches may be required for different types of districts within the downtown in order to recognize varying built form and market characteristics and provide an appropriate response in terms of residential development.

3.3. Towards New Regulations

In all of the case study cities, the desirability of mixing uses in the downtown is recognized, and most cities already have mechanisms to implement such a policy. To build residential in the downtown is to increase the diversity and interest in what was once a predominantly commercial district. At the scale of the district, the street or the block, the question is not "to mix or not to mix", but rather, how to accommodate mixture in the most appropriate ways.

Toronto's policy of encouraging residential development throughout all parts of the downtown is considered to be both appropriate and desirable. Housing downtown serves a number of purposes. It allows people to live in close proximity to work and other activities. It promotes vitality, activity and safety at all times of the day and night. It is environmentally appropriate in that it reduces dependence on the automobile and encourages walking or cycling and the use of public transit. It offers an appropriate location for a certain style of urban living usually associated with high population concentrations and active street life.

The current system of regulation in Toronto provides direct incentives for the development of residential use in the downtown. It does this by attributing development rights solely for residential use and also by permitting the flexible conversion of commercial development rights to residential in the mixed "CR" zones. The uph system of allocating increased development rights, notwithstanding its tendency to permit buildings of a size well in excess of general expectations, has also provided an incentive for residential development.

The current regulations have been very successful in producing residential development in the downtown. The principles they represent should be retained in any new system for Toronto.

However, the current regulations have been less successful in areas of commercial concentration where the high-rise office building predominates. In these locations, special consideration and incentives may be appropriate to encourage the development of housing. In order to implement this policy, the distinct character of various types of functional districts must be reflected in the regulations. A different strategy needs to be followed in areas where large office buildings are to be permitted than in the more residential districts. Such a distinction should be recognized in the regulations so that different policy approaches can be formulated for both types of districts.

3.3.1. Different Districts Require Different Approaches

Given a policy of encouraging mixed-use in downtown Toronto, two quite distinct districts must be recognized. They contain quite different building types, and cater to both different office markets and different residential markets.

Mixed-Use Office Districts

First, there is the Financial District and the other areas of commercial concentration which are dominated to a large extent by office towers; areas such as Bloor Street East and University Avenue. The offices cater to the tenant who seeks a prestigious location and modern office space, such as corporate head offices, financial institutions, and major professional service tenants.

It remains City policy to control and limit major additions to the supply of office space in Toronto. Thus, major new office buildings would continue to be directed to such mixed-use areas which have a strong commercial emphasis and where the City has chosen to permit such large scale office development. However, mixed-use buildings should continue to be encouraged within such areas. Residential buildings, once unthinkable in these locations, have started to appear. A recent example is the Empire Plaza on University Avenue. Residential use has begun to find acceptance in the Financial District because the condominium market can offer a particular type of housing catering by and large to the corporate tenant or owner.

Residential development in the Financial District

Land values in these areas are the highest in Toronto, and the form of construction which combines offices and residential in high-rise buildings is usually expensive. Therefore, the kind of housing developed in these locations is likely to be expensive and geared to the luxury end of the market, providing a Rosedale or Forest Hill equivalent in the downtown condominium market.

In this type of district, potentially categorized as ***Mixed-Use Office***, the City might therefore encourage the New York or Chicago type of major office building which also contains a large scale residential component in the upper portions of the same tower. The grade level and possibly the lower levels of such towers would probably not be appropriate for residential development in order to ensure street animation and to minimize the impacts arising from noise and traffic. Consideration should therefore be given to precluding residential uses from these lower floors. In general, however, policies for residential accommodation in these primarily commercial districts, and catering to this specific market, should probably differ from regulations for the other districts of the city.

Mixed-Use Residential Districts

The rest of the downtown would likely fall into the second type of district, in which residential use will usually predominate. In these districts, which might be categorized as *Mixed-Use Residential*, it is envisaged that mixed development would show greater emphasis on the residential use.

Buildings would be developed as primarily residential with smaller office components on the lower floors and retail potentially at grade. Such offices would likely cater to smaller tenants at lower rents, providing an alternate office accommodation for the type of tenant who can often not afford the major large floor plate modern building. Residential use in these buildings would cater to a much wider range of housing, including social housing.

Within this second category, moreover, different districts could be created to allow for a range of densities and heights, as well as varying proportion of commercial permissions depending on the location within the downtown. In some locations, such as Jarvis Street or Bay Street, for example, residential use will predominate. In other locations, such as Front Street East, there may be a more even balance between office and residential uses.

Mixed-use residential district

In summary, in seeking policies to stimulate the development of mixed-use in Toronto, either in one building or in adjacent buildings, the considerable differences in the two types of district described above should be acknowledged and reflected in the elaboration of regulations to encourage mixed-use.

Recommendations:

3. i) *The regulations should encourage a mix of residential with other land uses throughout all parts of the downtown.*

ii) *Residential development should be encouraged in the downtown by continuing the present practise of:*

- *creating development rights which can only be for residential use; and,*
- *permitting residential use to displace commercial development rights but not the reverse.*

iii) *The regulations should recognize that there are some mixed-use districts which are primarily residential,* ***Mixed-Use Residential****, as well as others which are primarily commercial,* ***Mixed-Use Office****.*

iv) *Special consideration should be given to encouraging residential use in areas of office concentration.*

v) *Exclusively residential buildings should be discouraged in Mixed-Use Office areas in order to ensure street animation and minimize impacts on residents of noise, traffic, loading and other commercial functions.*

CHAPTER 4

BUILT FORM AND DENSITY: A NEW APPROACH

4. BUILT FORM AND DENSITY: A NEW APPROACH

The previous chapter dealt by and large with issues relating to the mix of use within different parts of Toronto's downtown. However, the question of land use cannot be separated from the issues of built form and density, which are perhaps the most critical aspects of the regulatory system. These issues lie at the heart of both the question of design and environment as well as the question of value and equity.

Our research in the other cities, our analysis of the buildings in Toronto and our discussions with many members of the planning and development industry in Toronto have led us to the elaboration of a new approach which will hopefully address the emerging concerns on the quality of our built environment.

In this section of the report, we provide an overview of our understanding of the relevant issues and outline the approach which we are recommending. Following this overview, the specific details of the regulatory system are analyzed and discussed in terms of the research we have undertaken.

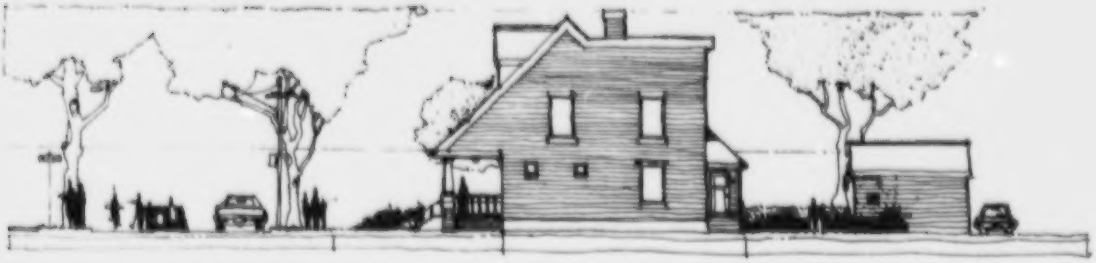
4.1. Consensus About Design and Environment

While there appears to be a consensus in Toronto about the fact that we want a vibrant and alive downtown and a mix of residential and other uses, there is no consensus about its physical form. There is considerable debate about the scale and height of buildings, their street relationships, the need for open space, and other community facilities.

Successful Building Typologies in Toronto

In contrast, there is a greater consensus today about the form of Toronto's older residential neighbourhoods. There is much less doubt about the kinds of built form we want in those neighbourhoods, irrespective of questions about affordability, the economy of construction or marketing. Examining the typical neighbourhood street reveals a tremendous consistency of building types, the elements of which evolved over many decades to become the publicly accepted norm for those parts of the city. The building types are the molecules from which the neighbourhood fabric is created. Their repetition and aggregation create clear and desirable relationships between the public and private realms.

The typical Toronto neighbourhood is made up of two building types: the house along a residential street and the commercial/mixed-use building along the main street. The house-to-street relationship can generally be described as follows:



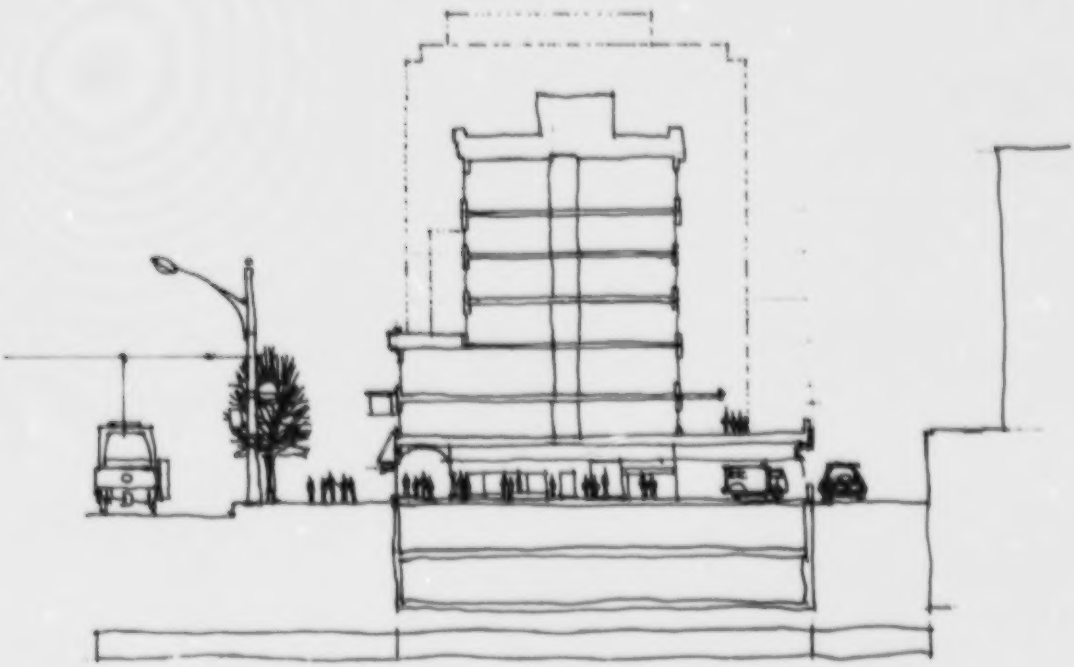
- First, there is the public street, including sidewalks on either side. These provide access to the public in cars, on bicycles or on foot. The street is expected to be slowly travelled and safe for bicycles, children's play or even the occasional ball hockey game. It is the locus of social life. Parking is also generally allowed along the street.

- Then there is a semi-private zone composed of the front yard and often of the front porch. This is a zone for tree planting, sometimes for parking, and mostly for creating a pleasant neighbourhood streetscape, comprised of greenery, before the buildings begin.

- The private building comes next. It must be used for residential purposes, is allowed to rise to three storeys, and has views and light from the back and the front, although not necessarily from the sides. Its detailed design is largely up to the private owner.

- Finally comes the private rear yard and ultimately, if fortunate, a garage and a rear lane which grant private vehicular access and storage. Then the next house occurs following precisely the same pattern.

A similar basic structure is characteristic of the typical Toronto retail street. It is the structure of the private to public realm relationship that matters to the public, not the detailed architectural expression. This is up to the private owner. The retail street generally has the following structure:



Public street *Semi-private and private* *Private back lane*

- It starts again with a public street often including transit and sidewalks, this time wider and busier.
- Individual buildings are built to the property line, one property abutting directly onto the next property on either side to create a continuous row. The semi-private zone occurs where the public is permitted access to the buildings which typically comprise stores at grade. The private space occurs above grade level up to four storeys, and covers most of the property. This space is usually for residential or office uses.
- Private back lanes are common and highly desirable for automobile access and deliveries.

Our satisfaction with these building types is the result of their ability to resolve the relationship between the private building and the public realm, as well as the relationship of one private building to the next, both side-by-side and across the street. This historical building typology has evolved over many years in Toronto, and has been identified as a positive characteristic of our city. These types were conceived in a period when there were clearer conventions about the proper relationship between the fronts, backs and sides of buildings and the importance of streets.

The current regulations, therefore, appropriately attempt to codify these building types to ensure that as-of-right development will fit into the neighbourhoods. Where development does not adhere to the basic typology, it must be reviewed in detail by the City and the residents of the surrounding neighbourhood.

4.2. The Origins of Built Form in Downtown

A comparable consensus about building typology does not exist in the downtown where denser forms of development have been occurring. The downtown has also been almost entirely rebuilt over the past thirty years. It is therefore no surprise that there is currently no consensus about how it should appear.

Office Buildings in the Downtown

Prior to the early 1960s, development in the downtown tended to be single use, either residential or office. The office buildings were initially larger and bulkier versions of the retail strip buildings, occurring one against the other along the street, as on Bay Street between Queen and King. They contained retail at grade, were built to the property line, but were considerably higher and bulkier than the retail strip buildings.

Pre-1960s office development

In the 1960s, a new form of modern office building emerged reflecting larger more comprehensive office development sites. Known as the "tower in the park", buildings were pushed back from the street so that they could be seen in the setting of an open space or plaza which surrounded them and separated them from the street edge. Prestigious lobbies became the major feature at grade level and retail was eliminated entirely or added below grade in a mall. Because buildings no longer covered their entire lots, the density of the lot was applied to a smaller area and thus the buildings could be built higher. Height became part of the symbol of the office tower, competing for prestige with similar developments in the city core and on the skyline. The considerable heights and the separation from other buildings also offered fine views to tenants.

The new form of office buildings standing within plazas was strongly criticized in the early 1970s. The rejection of this building type was based upon perceived failures in the relationship between the building and the public realm. These kinds of buildings were destroying the conditions of urbanity, necessary for a vibrant city. The open spaces were often seen as wind-swept, inhospitable public places, and the relationship between private building and the public street was considered inappropriate and undesirable. The public street lacked interest for pedestrians and offered little protection from the elements. The 1976 Plan called for the return to the previous typology, with retail at grade and buildings covering most of their property. The emphasis was on creating an active and interesting public street life catering to pedestrians at grade level. Buildings were to be subjected to wind tests to ensure that any proposed open spaces would be comfortable for the public.

High-Rise Residential Buildings

The higher density residential buildings which were built in Toronto prior to the high-rise tower were three or four storey walk-up buildings in neighbourhoods, which followed the pattern of the house in terms of its relationship to the public street and to surrounding properties.

3 1/2 storey walk-up building

The high-rise apartment which emerged in Toronto in the early 1960s was a new building type, also deriving from the "tower in the park" model. It vastly enlarged the semi-public realm by consolidating a large area of open space at grade level around the building. This was intended to compensate for the loss of individual private gardens and relationship to the ground. At the same time, the green open space was intended to create a more sympathetic relationship between the new building and its low-rise neighbourhood.

A residential tower in the park

Consolidating the building on a small portion of the lot thus seemed to make sense from a neighbourhood perspective as well as being an economic form of construction. From the building owner's point of view, collecting the density offered height, and therefore view, as an additional compensation for the loss of the close relationship to grade.

This building type was roundly rejected in Toronto's neighbourhoods during the 1970s as being unacceptable within low-rise neighbourhoods. In the 1976 Plan, this building type was retained for the residential areas in the downtown, but the requirement for open space at ground level was removed and actively discouraged in mixed-use areas.

4.3. Downtown Since The 1976 Plan

Since the mid 1970s, office buildings have conformed to the objectives defined for them in the 1976 Plan and there seems to be less controversy over the design and environment of individual projects. The post 1976 office building typology has produced an array of buildings which together add up to a coherent urban fabric. The primary controversy has been over questions relating to the debate about value and equity, as developers obtained significant increases in density in exchange for the provision of public benefits.

It is the residential buildings in the downtown which have created the greatest controversy. There is a strong body of opinion that we failed as a city in the design of residential buildings along Queen's Quay and there are considerable questions about the urban quality of Bay Street north of Dundas Street. These concerns derive largely from the poor relationship of the individual buildings to the public realm, and from the fact that collectively the buildings fail to create an interesting and attractive urban streetscape worthy of a major metropolis such as Toronto.

Most of the new residential and mixed-use buildings in the downtown are condominiums which found respectability as a tenure type during this period. This form of tenure has had built form implications in the city. Individual private owner acceptance has been the major influence on building design, particularly as the tenure type was struggling for full market acceptance. As a result, the private, rather than the public aspects of the building became the primary design determinant.

The best illustration of the private orientation to design is the increased importance of views as a design determinant since the advent of condominium tenure. Typically, prices of similar units increase with height. The quality of the view offers a critical and highly desired feature absent from the other ownership alternative of the house at grade. Thus, condominium buildings have sought to maximize height in tower or slab form.

The typical solution to achieving this height was to deploy density in a slender residential tower rising as high as possible above a broader retail or office base building which covered most of the lot. In order to further maximize views, the slabs often have been set obliquely to the street line, thereby achieving the maximum view diagonally across neighbouring properties rather than directly facing across the street.

The difficulty with such buildings derives from the fact that their primary design parameters are to create easily marketable apartment units. The importance of private view as a key design determinant in shaping the building often conflicts with public objectives such as creating an appropriate street relationship or providing a good microclimatic environment.

Moreover, the current design approach fails to define an acceptable and predictable relationship to the public street or to the building on either side, as is the case of the house in the neighbourhood or the retail strip building. Consequently, no building type has emerged nor has public consensus been achieved for high-rise residential and mixed-use development as it has for houses in neighbourhoods, retail streets, or downtown office projects. There continues, therefore, to be uncertainty and concern about the cumulative effects of high-rise residential development on the public realm and on the overall structure of the downtown. The time has come for development to reflect the growing desire for living downtown, for being part of an urban scene, for exploring the potential of shorter views along interesting and active city streets.

4.4. A Regulatory Approach for the Downtown

The lack of a public consensus about urban form and building typology for downtown living has allowed the question of *value and equity* to dominate the issues of *design and environment* and has created uncertainty for residents and developer alike. What is needed to avoid future dissatisfaction is a consensus on collective form and building typology for mixed-use development in the downtown.

As consultants, we are not on our own in a position to define an appropriate mixed-use residential building typology for the downtown. This must be a public process carried out over time. Therefore, we have elaborated a two-step process which, in the short term, would put in place a set of regulations which define a base level of as-of-right development, and which would, in the longer term, initiate a public process geared to developing and achieving a consensus on the form of development for Toronto's downtown. The objectives of this two-step process are described briefly below, with further details on its elaboration and implementation contained in later sections of this report.

4.4.1. New Base As-of-Right Regulations

In formulating new regulations for the base level as-of-right development, it is important to shift the regulatory focus to the public realm and to the issues of *design and environment.*

The intent behind the base as-of-right regulations is to ensure that there are predictable built form outcomes within the public realm, a variety of architectural expression and adequate microclimatic conditions. There must be a clear and demonstrable relationship between the regulations and the outcomes they seek to define. The objective is to define a base level of known built form which can be anticipated from the regulations.

We recognize that in developing such regulations for the base zoning to be applied throughout the downtown, we are in effect moving towards the encouragement of new typologies, based primarily upon public, rather than private objectives. The latter appear to be adequately regulated by market forces.

This new format envisages the deployment of density in lower buildings, covering a greater percentage of their lots. Buildings in the downtown would be built relatively close to the front property line, reducing the likelihood of overshadowing the rear of the property and creating a relatively continuous streetwall condition.

Amending the Base Regulations

The "base" condition may not in fact be appropriate for all of the downtown. Therefore, we have envisaged a process for amending the regulations through the elaboration of urban design plans for more distinct districts within the downtown. Through this amendment and public discussion process will hopefully emerge amended or new building typologies for downtown.

While such urban design plans are considered primarily to be a tool for considering changes to the base built form for any part of the city, they can also be a key tool in the process of allocating additional development rights where these are considered to be appropriate.

The base regulations will be limited at levels where predictable built form can be clearly defined within the Zoning By-law. However, such an intensity of development is unlikely to be sufficient to meet the various development needs of a dynamic downtown such as Toronto's. Under certain circumstances or in certain locations in the downtown, higher and more intense forms of development may be desirable, such as at key intersections, transit interchanges and even along some streets. It is likely that the best overall structure plan for Toronto's downtown will call for more intensity of development in certain locations than can be appropriately defined at this point in time in the Zoning By-law.

It is critical to maintain the objective of built form predictability when considering such additional development rights. Therefore, it is necessary to seek a public consensus as to how the base regulations will be modified. In Ontario, the legislation which governs land use provides an appropriate mechanism for offering such assurances. Key locations can be designated in the Official Plan for greater intensity pending a rezoning application, if they are able to meet certain clearly defined performance criteria. While such a rezoning may deal with a variety of issues, key to the process should be the public discussion of an urban design plan.

4.4.2. The Urban Design Plan

The City needs to make the debate about urban form for the downtown explicit rather than have it emerge as a by-product of discussion on use and density.

Urban design review is already part of the City's development review process. Today it is happening in an informal and ad hoc manner that is frustrating, since all major projects are subject to a thorough urban design review which often appears arbitrary to the applicant. The review now takes place after the architect and the developer have spent considerable energy and resources in preparing their own best solution for the site. The debate at that point is often antagonistic.

There is a strong desire from all sides of the industry for a clearer definition of *what the City wants*, so that architects and developers can respond to a known direction from the outset and try and solve the private realm needs within a public context which is clearly defined for them. In this way, it might be easier to imagine a collaborative resolution of built form where the objectives of the City are respected in a manner which the City staff may not have anticipated.

From the Other Cities

Boston and San Francisco are arguably the cities best equipped to deal with issues of contextuality and compatibility. Each has tools in place which ensure that developments fit into their context or otherwise consider their neighbours. The approach has been to develop zoning districts which are closely tailored to the needs and constraints of a particular area.

Boston has been split into a number of zoning districts, such as the Midtown Cultural District or the Harborpark District, which share common attributes and benefit from a more fine-grained approach to zoning. These districts may encourage preservation, restricted growth, medium growth or economic redevelopment, and each may have its own range of fsi and height limitations. Increased fsi and height is permitted only subject to satisfaction of criteria relating to matters such as height and massing, architectural compatibility, microclimate concerns, historic landmarks and pedestrian connections.

San Francisco achieves its urban form goals through implementation of height and bulk limitations. The purpose of these requirements is to ensure that the height and mass of new buildings relate to important attributes of the city pattern, such as surrounding heights, character and bulk. They are also intended to protect and improve the integrity of open spaces and other public areas, and to direct development to appropriate areas of the city. San Francisco has also implemented a system of district planning in order to protect and enhance the varying design characteristics of its different historic areas. Special built form criteria apply in the Zoning By-law to each of these "special use" districts which are generally mixed-use in nature.

In San Francisco, new development conserves the scale and form of the existing surrounding neighbourhood through requirements for maximum lot coverage (ranges between 65 and 100 per cent coverage) and streetwall lines. Generally, on wide streets, a building must meet a streetline with no setbacks at grade, although certain setbacks are permitted on narrow side streets. Buildings must rise to within a range of minimum and maximum heights before they are required to set back in accordance with front and rear sky exposure planes. The result is a lower, bulkier building typology which comes out to the existing streetwall.

Each of these cities has begun to tackle the shaping of built form directly through their regulations on a local area basis. Guidelines and related zoning regulations have been defined which are area specific and which present a clear built form objective for that particular area. We propose that a similar process be followed in Toronto.

Purpose of the Urban Design Plan

Urban design plans are new only in name in the Toronto planning scene, where new areas are being developed. In the St. Lawrence neighbourhood, the St. Lawrence Historic District, Ataratiri, and the Railway Lands, clear urban design plans were prepared which define in three dimensions the relationship between street and building, the pedestrian and vehicular circulation system, the primary public entrances, the overall height and massing of the buildings and the open spaces.

An urban design plan

It seems that the time is ripe for the City to take a proactive and prescriptive approach rather than a reactive and restrictive one in planning for the downtown as well. In the context of intensification and urban consolidation, the assessment of the physical impact of a proposed building requires a clearly articulated urban design plan or vision for the street or district. The issues of street/building relationships, higher tower forms, open spaces, setbacks, servicing, vehicular access, etc., would all be considered in such a process.

Urban design plans would define in three dimensions the anticipated built form vision for the streets and blocks in question. These plans must be illustrated in three dimensions so that they can be easily understood and then subject to discussion with the community and the property owners. They would form the basis for subsequent changes to the base as-of-right regulations and development review.

The City should therefore begin the process of preparing urban design plans for all the streets in the downtown. Such plans should not be seen as responses to applications for development, or be undertaken primarily in locations where additional development rights have been allocated in the Official Plan. Instead, they should be prepared at any point in time where the City may wish to propose changes to the base as-of-right regulations for an area or a street.

The urban design plans should form the basis for debate, so that there can be a meaningful discussion at the community and the political levels to assist all in determining the form of development which is appropriate for a growing downtown Toronto.

Recommendations:

4. i) *The regulatory approach should combine the definition of base as-of-right standards with the elaboration of urban design plans for individual districts, streets or neighbourhoods.*

ii) *The base as-of-right regulations should ensure clear, understandable and predictable built form outcomes within the public realm.*

iii) *The urban design plans should form the basis for elaborating a vision for an area, allowing public discussion and leading ultimately to determining appropriate building typologies for the downtown or districts within it. Achievement of the vision may require amendment to the base by-law.*

CHAPTER 5

BUILT FORM AND DENSITY: THE POLICIES

5. BUILT FORM AND DENSITY: THE POLICIES

In the remaining chapters of the report, we will elaborate on the approach described in the previous section. We will define in detailed policy terms the base as-of-right regulations which will improve the ability to achieve clear, understandable and predictable built form outcomes within the public realm. We will also elaborate on the purpose, content and implementation of urban design plans. Detailed policies will be proposed and illustrated based upon the research in other cities and the buildings we studied.

5.1. Absolute Limits on Density

Before proceeding to the details surrounding the questions of built form and density, we reviewed the research that has been done on the general question of density in urban areas. Are there absolute limits to density for urban areas (this section is elaborated in Appendix II), such that at densities higher than a given level, certain basic social, physical or psychological problems become inevitable? Such a contention must be examined in this study, given the importance of ensuring that Toronto's downtown residential neighbourhoods are "livable", and continue to be so over time.

As William Michelson, a widely respected, Toronto-based environmental sociologist has said,

> livability for housing areas is a descriptive and suggestive concept usually associated with the quality of human settlements. It conveys a broad range of values, some of which are quantifiable, some of which are not, but both are equally important.

In discussing livability in relation to technical and administrative issues, it is often associated with density and other measures of how many people can enjoy living in a specific and limited urban space. *Livability is both a goal for building and improving urban communities, and a measure of their respective success* [emphasis added]. (Michelson, 1984, p. iii)

High density residential living now represents a common way of urban life. However, in recent decades high-rise, high density living has been accused of many things. For example, many fear that it leads to increased crime and delinquency; isolates people in depersonalized living spaces, thereby causing loneliness and anxiety; and lowers resident interest and participation in community affairs. On the positive side, high-rise living has been credited with providing accommodation for more people at locations enjoying greater centrality of facilities and amenity, and with offering a low-maintenance, relatively low-cost housing alternative (Young, 1976). Some such as Jane Jacobs, in *The Death and Life of Great American Cities*, insist that a minimum level of density is essential if lively, safe and diverse cities are to be maintained.

Permitted building bulk or density is in large part a question of social norms. What is considered to be acceptable urban living varies in different societies. Hence densities range considerably in countries and cities across the world. For example, average "inner area" population densities have been found to be 24 persons per hectare (pph) in Australian cities; 45 pph in American cities; 91 pph in European cities; and 464 pph in Asian cities (Newman and Kenworthy, 1989). According to these statistics, Asian cities are almost 20 times as dense as American cities, yet it is generally accepted that high density is a culturally acceptable and "successful" form of living in cities such as Hong Kong.

High density living in Hong Kong

There is a body of research which links density to the impact of a city's transportation patterns. This body of research defines a range of population densities that result in three different types of cities, namely: "automobile cities"; "public transport cities"; and "walking cities". In 1989, Newman and Kenworthy found that cities with urban densities between 10 and 30 pph were predominantly reliant upon the automobile for transportation; cities with between 30 and 130 pph most commonly used public transit; and cities with between 140 and 400 pph were most reliant upon walking. With increasing densities, more people use transit, cycle and walk. As a case in point, Toronto's inner area was found to have a density of 54 pph.

The basic premise underlying this research is that the quality of urban environments improves as densities increase because there is a decreasing need to make accommodations for the automobile. Less dependence on the automobile means lower pollution, congestion, noise, and parking.

David Nowlan, a Toronto-based economics professor, has argued that the key to maintaining "manageable" congestion levels in Toronto's downtown is to continue to encourage significant levels of new residential development. Limitations and caps on the level of new commercial development have proven to be much less effective in this regard. Nowlan has, in fact, demonstrated that there is a direct relationship between the increasing number of people living downtown, and what is in real terms, a decreasing level (relative to the increasing total amount of commercial space) of traffic passing through the downtown in rush hour. This is because of "the enormous attractiveness of living in the central area for those who work there" (1989, p. 40). Nowlan goes on to state that, assuming a total of eight million square metres of commercial floor space by the year 2011, the City would have to achieve a production rate of 4,000 new residential units per year (between now and 2011) in order to restrict congestion in the downtown to its current level. Given that traffic congestion is a major detriment to livability, such a target would be an important objective to pursue. It might be argued that the only concern in this regard is the potential social and psychological implications of such substantial increases in Toronto's residential population and, thus, densities. However, our review of the sociological and psychological research pertaining to the relationship between density and livability concludes that a finite and identifiable density threshold has not been established, and that density itself may not be the most important contributor to livability.

In fact, many studies have established that the accessibility of community facilities and services may be a more important determinant of residential satisfaction. Michelson suggests that rather than attempting to determine an appropriate density limit, we should instead attempt to identify what degree of facilities and services a given population group will need (i.e. shopping, recreation, etc.), and then, based on the level of amenities which exists or that can be provided, determine a comfortable density level. Michelson argues that this approach provides a "practical, operational way of determining densities rather than one which is arbitrary and [attempts to be] universal" (1984, p. 21).

The main conclusion to be drawn from the body of research which attempts to establish a causal relationship between density and livability is that the results are inconclusive. Furthermore, it has been said that:

> the blunt fact is that the physical environment is rarely deterministic, that is, it rarely determines a given social or psychological condition. It is truer to say that social and physical environments interact, each modifying the other. To say that high-rise living produces social problems assumes too direct and important an effect of a physical system. This should be replaced with [the question] that asks why, how, how much, and with what effects this causal influence does occur (Young, p.31).

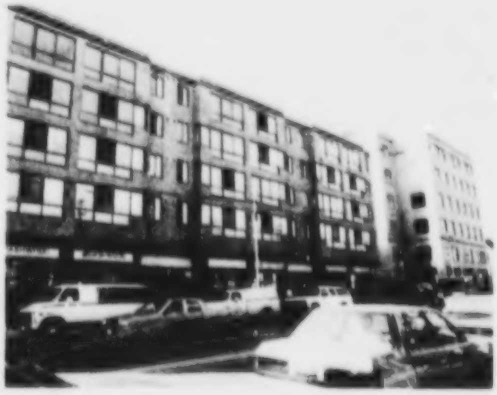
It is most important to remember that housing is really a "bundle of amenities", and that alternative housing forms combine and trade-off these amenities in different ways. As such, the role of community planning is to ensure that the range of alternative housing forms are complemented by the combination of local amenities needed to make them livable. Examples of such amenities include community facilities, services and institutions; open spaces; and cultural facilities.

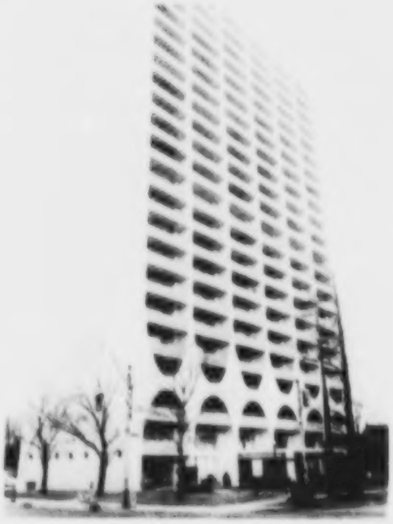
5.2. Built Form and Density Cannot be Separated

The appropriate density for a particular property, street or neighbourhood is established as a result of the application of a large number of planning principles which deal with the structure of the city. These principles include such matters as the accessibility of the property by road and transit, the capacity of the hard services such as water and sewers and the availability of other amenities such as parks and schools. These and other issues are analyzed through a comprehensive study of the neighbourhood in the city context and become key inputs into establishing the various density levels and the land uses which might be appropriate in any location.

The other critical issues which must be taken into account when establishing density levels are those which relate directly to the question of *design and environment* - how the building relates physically to its surroundings. These are the questions of built form which define the building on its site, its relationship to the immediate neighbours, the street and, ultimately, the neighbourhood. Density is a critical variable in determining building scale, yet density alone does not provide built form direction; it must be combined with controls over height, location of the building on the property and other regulations to ensure appropriate built form results.

Our study of buildings in Toronto demonstrates clearly the fact that there is little relationship between constructed density and building form. There is a wide range of building heights and forms which have similar densities. For example, both 225 Davenport Road (six storeys) and 109 Bernard (22 storeys) have the same approximate density of 2 times fsi[1].





Similar densities but radically different heights

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[1] In this report, fsi generally describes the full above grade building bulk.

At approximately 4 times fsi, 164 Cumberland Street has seven storeys, whereas 33 Isabella Street has 27 storeys.

Similar densities but radically different heights

In Toronto, the emphasis in the regulations has been on the question of density and land use. The regulation of height has often been considered arbitrary and easily amendable. Other built form regulation is weak, if not absent, in the current regulations.

If we are to achieve the objective of a predictable built form in downtown Toronto, the focus of our controls must expand from sole consideration of density and land use to include issues related to built form.

5.3. Density Control: Units Per Hectare vs. Floor Space Index

The objective of achieving regulations which yield understandable and predictable built form underlines the debate over the relative merits of the uph and fsi systems in realizing that goal.

From the Cities We Studied

All of the cities we studied use a form of bulk control that limits the amount of development allowed in relation to the size of site. Typically, this limitation is measured as a ratio of the developable gross floor area permitted on the lot to the lot size, known as the floor space index. New York uses the fsi in conjunction with a limitation on the number of rooms per lot area in residential or mixed-use areas, in order to be able to plan in an orderly way for new schools, utilities and transit expansion. New York State's Multiple Dwelling Law regulates the minimum number of rooms in each dwelling unit category and the Building Code contains a minimum size dwelling space for each type of room.

Toronto and Calgary are the only two cities that use the unit per hectare approach with no fsi bulk limit. In Boston, Chicago and New York, the fsi limitation is paramount, while direct built form and height limitations are paramount in San Francisco.

The Approach in Toronto

The City of Toronto adopted a units per hectare system of regulation in the 1976 Plan based upon a number of policy objectives. The first objective was to encourage the provision of housing in the downtown by building in the flexibility (through the density bonus inherent in the uph system) which would allow developers to meet the market demand for larger units without penalty. The secondary goal was not only to obtain housing, but to steer development away from the production of small units, which were predominant at the time, to larger units which might cater to families. Finally, the uph system would allow the City to gauge the impact on required community facilities and municipal services and to plan accordingly.

Under the uph system, the number of units permitted on a site was calculated on the assumption that the average unit would be 100 square metres (mixing formula), but the developer was, in fact, allowed to build units of an unlimited size. This regulatory change was successful in that it was an added incentive to the private sector to produce a great deal of housing in the downtown at a time when this was still considered to be a risky venture. This housing also included a wide range of large units.

Despite the stated objective, experience has shown that the units are, in fact, seldom occupied by families. Of the eleven case study buildings, only two have significant numbers of residents under 20 years of age (111 Chestnut has 38 percent and 350-390 Queen's Quay West has 24 percent). It is noteworthy that both of these projects have large components of social housing. This illustrates the fact that, in downtown, it is largely the social housing producers who cater to family housing, and they usually do so in smaller units often less than 100 square metres in size. These non-profit developers seldom benefit from the unlimited unit size provision.

In summary, the uph system was instrumental in enabling the City to reach its primary objective of ensuring the production of housing in downtown. However, the uph system was less successful in encouraging the private market to create family housing in downtown, and in cases of social housing, the system actually placed the non-profit developer at a disadvantage in terms of the gross floor area that could be built.

In terms of built form, the primary result of the uph system has been the creation of buildings which are very much larger and bulkier than they would have been if the mixing formula constant had been a maximum fsi limit for the property.

Implementation of the fsi option in 1983 allowed for an unlimited number of units within a predetermined bulk. Since then, some developers whose original proposal was based upon an approval for very large units, producing considerable bulk beyond the mixing formula, have sought to increase substantially the number of units while maintaining the increased bulk. This is done either in response to a change in market conditions or as a cynical manipulation of the variations between the built form results of the uph and the fsi systems. They argue correctly that if the building bulk with larger units is sound in terms of the planning principles for the area, then they remain sound for a similar bulk with more units, which are more affordable and badly needed. In principle, we agree with them; the building bulk should be based upon sound planning principles irrespective of the number and size of units to be built.

The regulations should define the built form that is sought in a particular location based upon sound planning principles and the physical relations to the street and the neighbours. Thus, the new regulations should no longer be based on the units per hectare system, but should revert to a system which will ensure the bulk intended for a property is the bulk that is built, unless it is intentionally amended by the City with the understanding of the surrounding community.

The ability of the uph system to estimate a maximum number of units and the associated population for purposes of social, community, and physical infrastructure must also be addressed. The uph system, although defined in terms of numbers of units, actually provides an ineffective index to determine the actual number of units which are constructed because of the variations in residential and commercial densities inherent in the mixing formula. Combining past trends with permitted fsi would enable equally useful unit and population projections to be made.

More accurate is the City's comprehensive data collection system at the time of development review and building permit. This data can provide the basis for ongoing monitoring of unit counts and population and the implications of new development on municipal infrastructure. Therefore, removing the units per hectare system of regulating development should not have any repercussions on the planning of community facilities.

5.4. Unit Controls

There is an almost even split in the provision of small and large units in the buildings we studied. Half of the buildings provide mostly two bedroom units, and the other half mostly one bedroom units. Some offer three bedroom units and/or bachelor units as well. These units were built when there was no regulation of unit size or mix, yet a mix of all unit sizes has nevertheless resulted. In fact, most buildings offer at least three different unit sizes.

Moreover, most of the case study cities do not regulate unit size and mix in market housing. However, Vancouver does regulate the minimum residential unit size to 37 square metres. According to Vancouver planners, though, it is rarely the case that developers wish to build units this small, except in the case of social housing units, in which case relaxation of the standards has been permitted.

The Approach in Toronto

If the regulations do not use the uph system which is likely to encourage the production of large units, is it necessary for the City to regulate unit size in order to ensure that a range of unit sizes is produced, or that the units which are produced are not unnecessarily all tiny? For example, when the City changed the regulations to provide the flexibility of either using the fsi or uph system, it also created a minimum unit size of 50 square metres. Was this regulation necessary?

The regulation of development is divided into those matters which deal with the public realm and those which deal with the private realm. Where the goal of this report is to strengthen the public realm aspects of the regulations, the private market seems to have been successful in meeting the needs of owners and tenants within buildings. In addition, as illustrated in the previous section, it is difficult to meet social objectives indirectly through the zoning regulations; the results seldom meet the expectations. Thus, less regulation is necessary to deal with matters which relate primarily to the private realm.

The Ontario Building Code regulates the absolute minimum unit size at approximately 24 square metres. However, to build very small units is to substantially increase costs, since each unit requires its own kitchen and bathroom. Therefore, developers are unlikely to do so unless the demand is great. In that case, it should likely be met. There is no evidence to suggest that a mix of unit sizes will not be built or that units will be of an inappropriate size. In fact, the contrary is true. There should be no regulation of the number of units, the mix of units or the size of units.

5.5. Microclimate

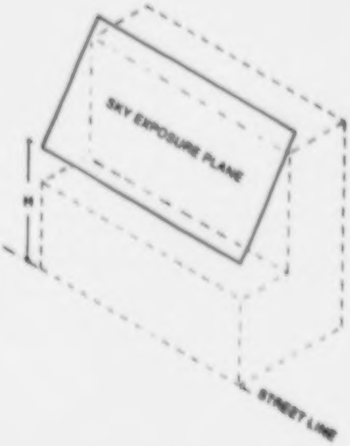
It is a basic premise that the new regulations should be designed so as to maximize the issue of environmental "quality of life" within the city. The achievement of suitable microclimatic conditions must, therefore, underlie all of the more specific built form regulations regarding height, setbacks, etc.

From the Cities We Studied

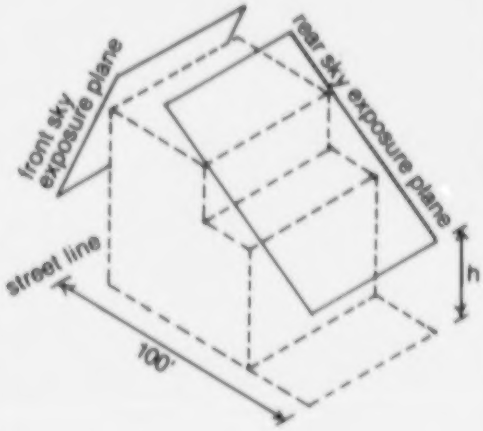
New York and San Francisco are forerunners in the control of microclimatic conditions. They have skyplane setbacks, daylighting requirements, or zoning envelopes to deal with issues of microclimate. These are additional tools for regulating built form. They assist in ensuring that if a permitted building form is repeated consistently across a district, the need for light and air at the street level will not be compromised by such repetition.

In New York's commercial and residential districts, the built form is constrained by front and rear sky exposure planes, which are defined as:

> a theoretical inclined plane, through which the height of a building may not penetrate, that is designed to provide light and air at street level in medium and high density districts. It rises over the zoning lot at a ratio of vertical distance to horizontal distance set forth in district regulations.



H = maximum height of front wall and starting point of sky exposure plane. In the illustration, the building shown in the dashed line makes its initial setback below the maximum front wall height (h). The height of the front wall may not penetrate the sky exposure plane. The roof of the building, however, sets back at the point dictated by the sky exposure plane.



H = height at which the rear sky exposure plane begins measured 100 feet from the street. In the illustration, the height of the rear wall of the building shown in the dashed line may not penetrate the rear sky exposure plane.

New York's sky exposure planes[6]

In New York's Special Midtown District, setback requirements have been superseded by daylighting requirements. There are two methods whereby a developer can conform to these requirements. The first method makes use of sky exposure planes. A maximum front wall height is set for buildings meeting the streetwall. The height depends on the street width, with greater heights permitted on wider streets. Beyond this height, the building must step back, according to a setback plane. The second method, daylight evaluation, is a test of the amount of sky that will be obstructed by a building as viewed from the street. Either of the methods may be used by a developer. Relief from these requirements is only given under limited circumstances, such as the accommodation of an existing historical landmark, and requires that the developer receive a special permit.

San Francisco has a requirement for sunlight access to sidewalks in its downtown commercial district. Like New York, a sun access plane slopes away from a maximum permitted streetwall height. Both the plane and the streetwall height vary, depending on the street and its orientation. Furthermore, wind and comfort criteria have been developed to apply in the downtown business districts. There are also special building design requirements for development around certain public plazas and streets, in order to reduce potential shadow and wind impacts.

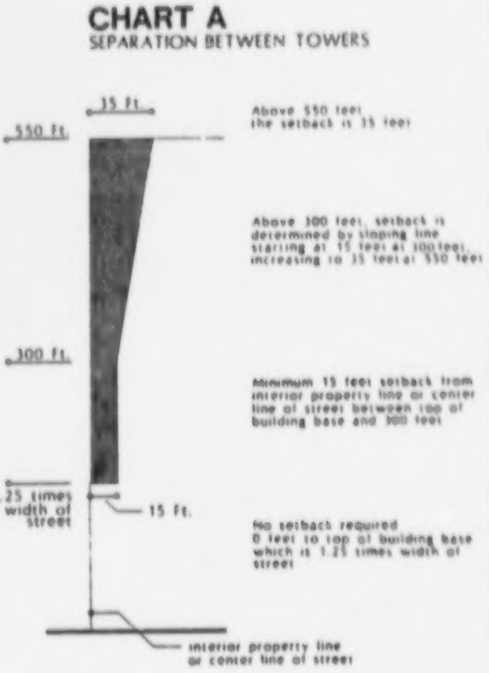


CHART A
SEPARATION BETWEEN TOWERS
35 Ft.
550 Ft.
Above 550 feet the setback is 35 feet
Above 300 feet, setback is determined by sloping line starting at 15 feet at 300 feet, increasing to 35 feet at 550 feet
300 Ft.
Minimum 15 feet setback from interior property line or center line of street between top of building base and 300 feet
1.25 times width of street
15 Ft.
No setback required
0 feet to top of building base which is 1.25 times width of street
interior property line or center line of street

Requirement. In order to provide light and air between structures, all structures in the S Bulk District shall be set back from an interior property line which does not abut a public sidewalk and from the property line abutting the right-of-way of a public street or alley. The setback shall be minimum of 15 horizontal feet measured from the interior property line or the centre of a public right-of-way, as the case may be, beginning at a height which is 1.25 times the width of the principal street on which the building faces, and increasing to the widths indicated in Chart A as the building increases in height.

San Francisco's sunlight access[6]

Boston has also moved to increase its controls over microclimatic conditions. It uses the Development Review process to achieve these objectives. In addition to this process, Boston's Midtown Cultural District zoning imposes extra environmental impact standards, including more detailed shadow and wind criteria, and skyline planes.

The Approach in Toronto

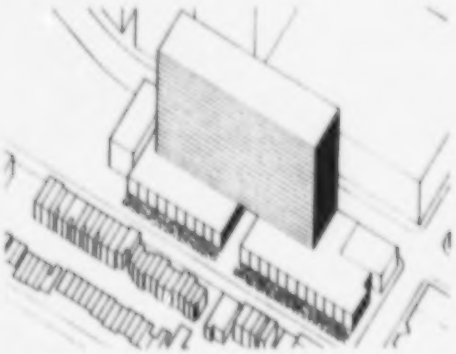
Several of the eleven buildings we studied have adverse impacts on their surrounding environment. On five sites, there are east/west slabs that significantly overshadow either their own open space, that of neighbouring buildings or public spaces.

Most of the buildings studied have significant high-rise components without setbacks/base/podium, which likely generate excessive winds at grade, problematic entrances and produce a visually overwhelming built form.

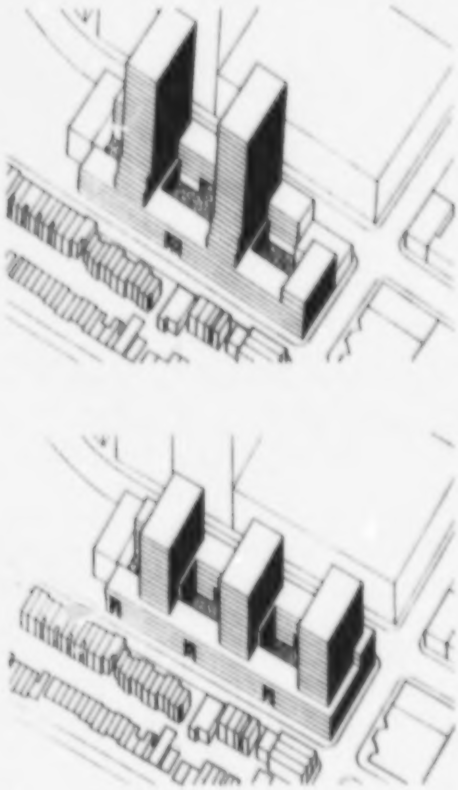
The matter of microclimate is under detailed investigation by other consultants for the City of Toronto, thus it has not been a focus of this study. However, discussions with the consultants of this separate study indicate that the approach proposed in this report would be consistent with theirs.

The underlying premise of the base as-of-right development regulations is the protection of the public realm, including microclimatic matters. Therefore, the specific recommendations on built form issues will attempt to address and integrate controls beneficial from an environmental point of view.

The Lexington



Existing



Alternative layouts which would ameliorate microclimatic conditions.

The regulations which will evolve from this report will probably require review and amendment to reflect the specific recommendations of the microclimate consultants. More detailed review on an area-specific basis will also become a requirement of the urban design plan process, in order to ensure that "local" environmental conditions are adequately addressed.

5.6. Built Form Controls

Through the last few sections of this report, we have argued for regulations which will produce predictable results in terms of built form, particularly in relation to the public realm. In this section, we will examine various mechanisms of built form regulation in more detail. The eleven buildings which we analyzed in some detail provide us with a useful starting point for a review of built form regulation.

5.6.1. The Buildings We Studied

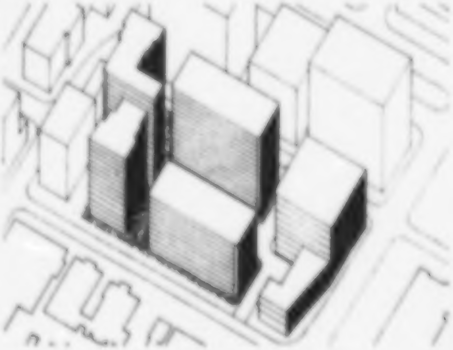
The buildings we studied have all contributed to the ongoing intensification of Toronto's downtown. This process has been occurring almost entirely through the development of high-rise towers with very few examples of medium-rise form to achieve similar densities. There has been, therefore, a consequent reduction in the range of building types that has been characteristic of Toronto and the question arises as to whether measures should be implemented to reverse this trend.

An important measure of the suitability of a new building is the repeatability of its form. The repetition of a proposed building or combination of buildings should ideally be able to create an acceptable urban pattern.

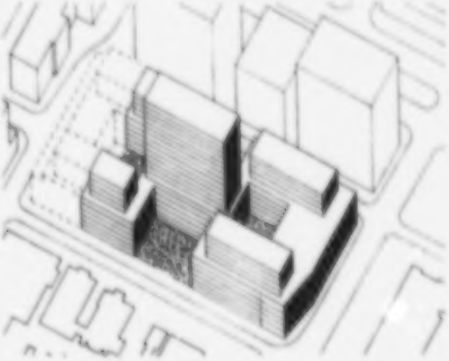
It appears that high densities have generated building forms that, in their repetition in the urban fabric, result in an unacceptable urban environment.

Most of the buildings studied do not relate appropriately to the streets on which they are located. Some are introverted, with private driveways, obscure entrances, excessive setbacks, or backyards to the street. In cases where public or semi-public open space is created at grade, the design of these spaces is often poor.

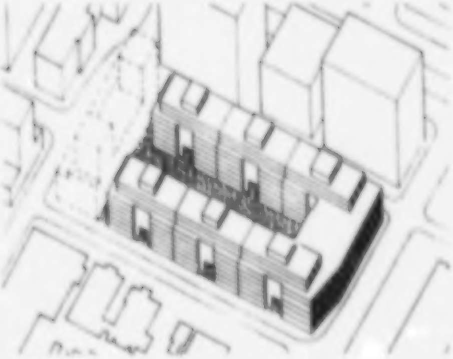
One Park Lane



Existing



Same density



Reduced density

Reconfigurations to permit repeatability of built form

In addition, the high-rise form which has predominated in recent development has resulted, in many cases, in negative impacts on microclimatic conditions. Increasing the height of buildings in relation to the size of public and mid-block open spaces reduces sun penetration and increases the potential for excessive winds. The development of buildings with excessively tall and continuous streetwalls also creates a "canyon" effect on the street and generates microclimate problems.

Canyon effect

Our study of One York Quay raises many of the issues described above. The Harbour Square complex, of which One York Quay forms a part, is now one of the most inhospitable public parts of the city; the buildings are overwhelming in scale, offer very little for public use at grade and create unpleasant pedestrian environments.

It is an example of how recent development does not relate well to the city and does not satisfy basic objectives regarding "livability" in terms of *design and environment.*

Building form and density must be far more stringently controlled in order to reintroduce a range of building types in Toronto; to ensure environmentally appropriate design; and, perhaps most important, to ensure proper relationships between the building and the street, and the building and the neighbourhood in which it is situated. In order to effectively guide this contextual relationship, it is critical that there be a range of permissible densities and related built form regulations which can be applied to different areas and streets in the downtown.

Overwhelming scale

5.6.2. Height Limits

Height limits are a common and useful zoning tool when applied consistently and with few exceptions. Most of the cities we examined had some kind of height limit, which frequently varied, depending on the use district.

Boston is a good example of a city in which the height is an important instrument for controlling development. In most use districts in Boston, a maximum building height is specified. It is specified on the zoning map as a suffix to the use code, in a way which makes it easy for developers and the public to understand the limits of development. Heights may be increased only under special circumstances, in return for public benefits which are negotiated in the course of development review. However, there are maximum outside height limits, above which no development may be approved.

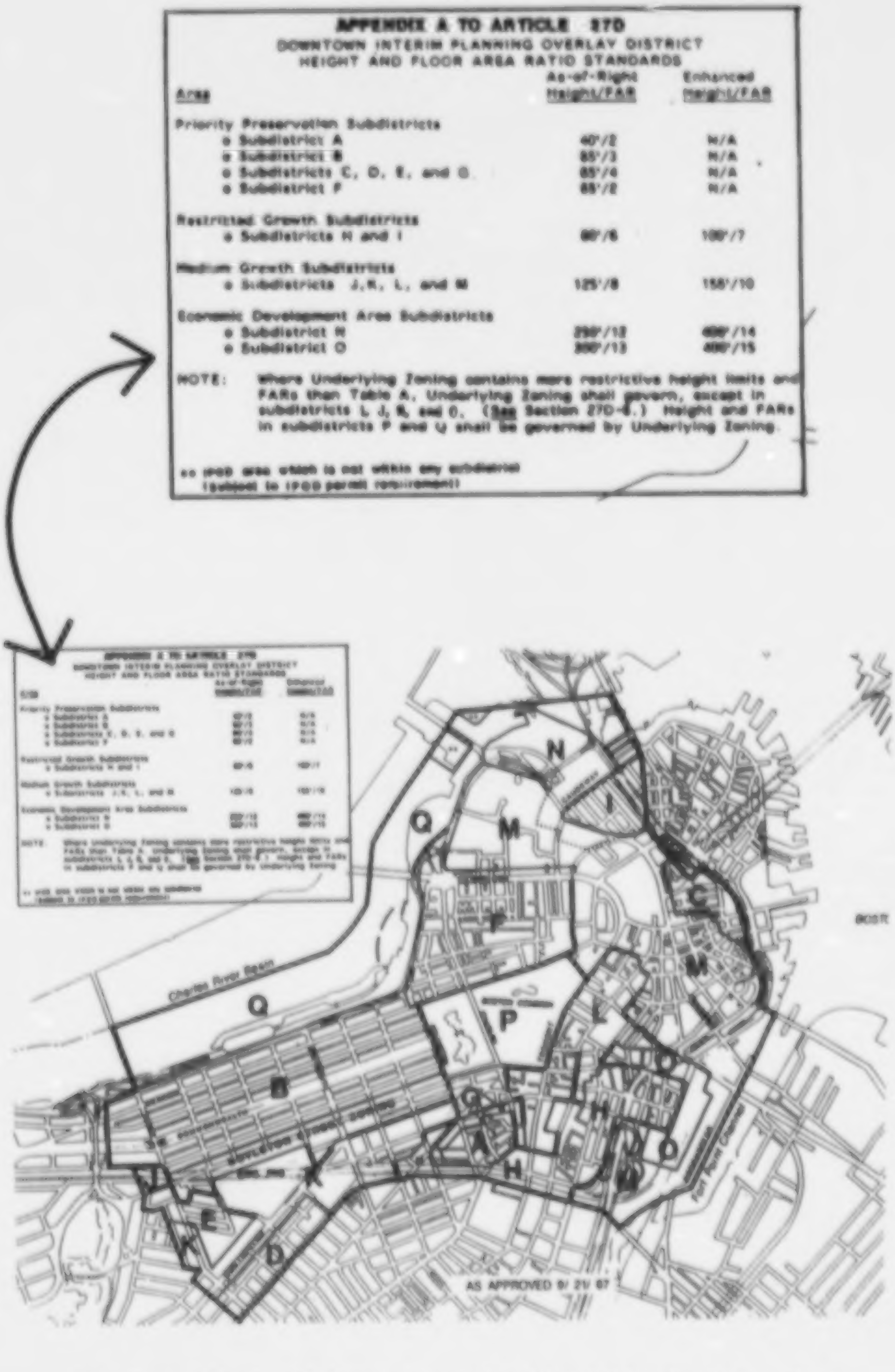
Without height restrictions, density limits alone do not generate appropriately scaled urban buildings. The towers of St. James Town were built with such extensive open space that the gross density is less than 4.0 times the area of the lot. Similarly, on the much more constrained site of One Park Lane, the current density of 6.0 times the area of the lot could result in a perimeter block building form of twelve floors or in two towers of twenty-five storeys.

This indicates the importance of height in guiding the form of development. A lower height limit (assuming the same density) results in a building covering a greater portion of its lot. This has implications on the building's relationship to the street, on the amount of open space which will be provided and, more generally, on the overall appearance of the city.

Our evaluation of the case studies revealed that the form of the downtown is becoming increasingly characterized by a repetition of the high-rise tower, and that recent examples of high-rise development have indicated significant problems with the relationship of the buildings to their physical contexts. Therefore, there should be more effective built form controls put in place to achieve a more appropriate built form.

There are a number of advantages in using height as a determining factor in built form. First, it goes directly to the heart of one of our primary built form concerns, the height of residential buildings in downtown. Building height is a concept which can be readily understood by the general public, especially if height limits are established in terms of storeys rather than metres. Storeys can be used as a point of comparison by anyone simply through looking at other buildings within the existing city.

Through controlling height, one is able to minimize the tangible impacts of development on the quality of the public realm in terms of microclimatic conditions, such as the amount of sun on the sidewalks and the effect of wind conditions. Minimizing height will also require buildings to relate more closely to the street and adjacent buildings, which will result in greater design attention to grade level conditions, attention which has been sorely lacking in recent developments.



APPENDIX A TO ARTICLE 27D

DOWNTOWN INTERIM PLANNING OVERLAY DISTRICT
HEIGHT AND FLOOR AREA RATIO STANDARDS

Area	As-of-Right Height/FAR	Enhanced Height/FAR
Priority Preservation Subdistricts		
o Subdistrict A	40'/2	N/A
o Subdistrict B	65'/3	N/A
o Subdistricts C, D, E, and G	65'/4	N/A
o Subdistrict F	65'/2	N/A
Restricted Growth Subdistricts		
o Subdistricts H and I	80'/6	100'/7
Medium Growth Subdistricts		
o Subdistricts J, K, L, and M	125'/8	155'/10
Economic Development Area Subdistricts		
o Subdistrict N	250'/12	400'/14
o Subdistrict O	300'/13	400'/15

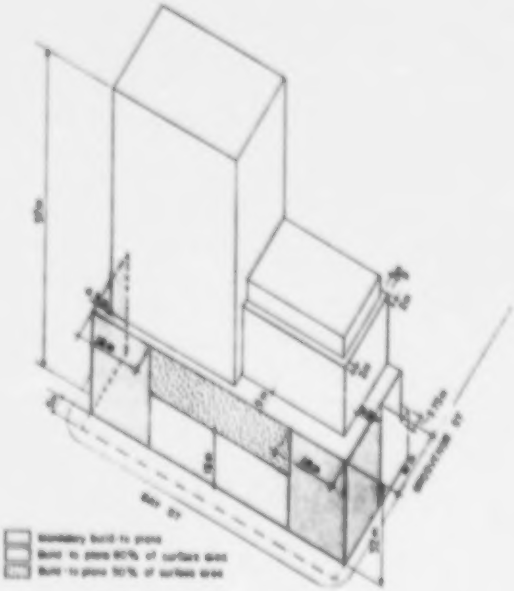
NOTE: Where Underlying Zoning contains more restrictive height limits and FARs than Table A, Underlying Zoning shall govern, except in subdistricts I, J, N, and O. (See Section 27D-6.) Height and FARs in subdistricts P and Q shall be governed by Underlying Zoning.

** IPOD area which is not within any subdistrict (subject to IPOD permit requirement)

The Boston Zoning Code: an example of height/density designation[c]

The building typology which emerges from the base as-of-right regulations envisages the deployment of density in lower buildings, covering a greater percentage of their lots, and relating directly to the streets on which they are situated. The application of reduced height limits will be perhaps the most important mechanism for achieving this typology. These height limits are not envisaged as substituting for density controls, but are intended to guide the built form associated with the density.

In order to make the reduced height limits truly effective and implementable, it is critical to establish a reasonable and realistic relationship between density and the proposed height limits, such as to allow some flexibility in the deployment of density while precluding high-rise development prior to urban design and microclimate studies. In the final chapter of this report, we include certain suggestions for recommended densities and associated height limits.



Example of build-to lines[4]

5.6.3. *Setbacks*

Setbacks can be useful instruments of built form regulation. They are used in many districts in Toronto, but rarely in the downtown. The corollary, the build-to line, is less frequently used but may be even more useful in ensuring that a certain built form results, since it is prescriptive rather than restrictive.

Of the cities studied, San Francisco, Boston, and New York have the most contextual approach to siting requirements, such as setbacks and yard standards. Setback requirements in San Francisco have the general objective of ensuring that new development fits in with its surroundings, based on site-by-site plans. Hence, rather than setting arbitrary standards, the City focuses primarily on streetscape continuity.

New York's contextual districts also approach siting requirements in a way that differs from most cities. Buildings are required to be located at or near the streetline, in order to maintain the scale and character of the surrounding area. The setbacks are described in terms of maxima, or build-to lines, rather than true setbacks, which are generally described in terms of minimum distance from the streetline.

Setbacks and build-to lines should be an available tool in the regulations. It would be difficult to apply uniform setbacks to all property in the downtown, since the need for them may be quite different for distinct streets and districts. They are best applied on an area or street basis where a particular built form strategy is envisioned. For example, it may be decided to create wide, landscaped sidewalks on one street through minimum setback requirements, and a streetwall condition on the next street through defining a build-to line.

However, in the base as-of-right regulations, it is likely desirable to include a maximum setback or build-to distance from the street applicable to all property. This would ensure that buildings in the downtown, for which there is not yet a clear urban design strategy, are built relatively close to the front property line. It would also have the effect of reducing the likelihood of overshadowing the rear of the property while creating a continuous streetwall condition.

Overshadowing the rear of a property is often a concern to which setbacks are applied in order to ensure that the light, air and outlook conditions from a habitable room within a private unit are acceptable. Establishing a rear or side yard setback would not necessarily achieve the desired result, as such a setback may not relate to the placement of windows. It would be more direct to ensure that a minimum distance is maintained between windows of habitable rooms and the property line; this is known as a minimum facing distance.

It has generally been the conclusion of this study that those aspects of building which relate to matters of health, safety or enjoyment of the private unit are well catered to by market forces. Where they absolutely require regulation, these are usually undertaken in the Ontario Building Code. In this case, where the effect of the base regulations being recommended will be to cover more of the property with building, it may be desirable to include a minimum facing distance from the windows of habitable rooms. We are not in a position to identify a suitable facing distance which might be recommended. However, it would be appropriate to include such a regulation within the base as-of-right regulations.

5.6.4. Lot Coverage

An instrument for regulating built form which has been used extensively in the City of Toronto is to establish lot coverage restrictions, which are limitations on the amount of site area that a building may occupy at grade level. For example, in Toronto the high-rise residential tower in residential areas is only permitted to cover 50 percent of its lot; 30 percent of the lot must be landscaped. In some jurisdictions, rather than restricting coverage, buildings must cover a certain minimum percentage of the lot in order to encourage squatter building forms.

This instrument tends to be somewhat indirect in achieving built form results and we do not recommend its further application. The definition of setbacks and build-to lines is preferable in order to achieve specific built form objectives at the ground plane.

5.6.5. Lot Size

Further instruments of built form regulation relate to the size of property on which a development is proposed. Some of the cities studied require minimum lot sizes in their medium and high density residential districts before development can occur. San Francisco has maximum lot sizes, intended to preserve the "fine-grained" character of certain streets and protect against inappropriate land assemblies. In most cities, large lots are subjected to an additional step in the approval process to ensure that they are appropriately planned.

In San Francisco, Chicago, Boston, New York and Vancouver, developments on large parcels can be implemented through the Planned Unit Development or Large Scale Development Permit process whereby the general guidelines, goals, densities and ranges of uses are stated in a master plan. In New York's Special Midtown District, a developer may apply for a special permit for large sites of at least 5,574 square metres, as long as the proposed development complies with the basic strategy of the Special Midtown District. The purpose of this large lot zoning is to obtain good urban design and public amenities on lots which are large enough to accommodate them. The City's incentive is to allow more design flexibility to the developer under this special permit by waiving certain urban design requirements.

In Boston, the City sometimes designates Planned Development Areas where lots must be consolidated, and coordinated development proposals elaborated. The lot must be at least 0.4 hectares in size. Alternatively, a developer may propose a Planned Development Area. The Redevelopment Authority will permit additional density and height within certain fixed ranges in exchange for the provision of public benefits and a coordinated master plan.

Similarly, Vancouver has implemented approval of comprehensive development areas wherein the zoning simply requires that a development permit be obtained before development may occur and that the development must be in conformity with the Official Development Plan. Permitted uses are laid out for each sub-area, but most other aspects of development are negotiated with the help of explicit design guidelines. In certain districts, this has been aided by the fact that these areas will be developed by one developer. Densities are subject to caps on overall development for an area, but on an individual site, the density may be increased by up to 20 percent to allow for variations where design or site planning objectives are desired.

The Approach in Toronto

The foregoing examples indicate that almost all of the case study cities have different mechanisms to guide development on large sites as opposed to small lots. In Toronto, it may also be desirable to develop different planning objectives and regulations for different sizes of lots.

Development of properties in small lot increments forecloses opportunities for comprehensive redevelopment and achieving major civic objectives in some areas, while in others, small lot development maintains the desirable fine and heterogeneous grain of the urban fabric.

- *Comprehensive Development*

It is in the City's interest to identify significant sites or areas within the downtown where it may wish to encourage comprehensive development to attain certain important public objectives. These objectives might include the creation of public open spaces or a significant built form departure from the base as-of-right regulations, which can only be realized when a number of properties are redeveloped together.

In such cases, it may be desirable to establish base as-of-right regulations to apply if the smaller lots are developed independently in these identified areas. A second set of regulations could be established in the Official Plan after an urban design plan is completed, granting additional height and density for comprehensive development. Presumably, there will be sufficient incentive through increased height or density in the Official Plan to encourage the assembly of sufficiently large lots to warrant applying for a rezoning and thereby implement the City's objectives in those areas.

- *Small Lots*

Where small lot development is considered beneficial in retaining the heterogeneous larger parcels of land. Where small lot development is to be encouraged (along retail strips, for example), the as-of-right regulations for smaller lots should be the most flexible. They might provide the maximum height and density and require little or no parking at all, while larger properties in the same location would need to supply parking and be subject to more stringent as-of-right rules. This strategy would therefore facilitate development of small lots in multiple ownership. The size of the site would determine which set of regulations apply.

The size of the lot should also act as a "trigger" for differing requirements relating to parkland dedication under Section 41 of the Planning Act. On small lots, dedicating the land requirement may not result in a suitably sized public park. Accepting cash-in-lieu of land in these cases provides the City with the means to achieve a larger parcel on a consolidated lot elsewhere. However, as noted above, development on large lots provides an opportunity to create more significant public open space which should not be squandered. Therefore, the Section 41 requirement for parkland dedication on lots over a certain size should be fulfilled only through land dedication and not through cash-in-lieu payments.

Recommendations:

5. i) *The focus of the regulations should expand to include built form, in addition to density and land use issues, in order to achieve a predictable built form which provides a positive contribution to design and environment in downtown Toronto.*

ii) *Density should be fixed in the regulations through an fsi measure. The units per hectare system as presently implemented with unlimited unit size and no cap on overall density should be eliminated.*

iii) *Unit number, size and mix should not be regulated.*

iv) *Regulations dealing with microclimatic conditions should be integrated with the other regulation of built form.*

v) *More detailed regulation of microclimatic conditions should emerge for specific areas or streets through the urban design plan process.*

vi) *The built form and density regulations should take into account the character of the street or the district in which it is to be located.*

vii) *A range of densities and built form should be encouraged through the downtown.*

viii) *The regulations should ensure that predictable built form results and that the built form intended for one site is repeatable on adjacent sites.*

ix) *Height is an easily understood determinant of built form which translates directly into built form results; it should be considered the critical instrument of built form regulation.*

x) *Setbacks and build-to lines should be applied where necessary on a street or area basis.*

xi) *The base as-of-right regulations should contain a build-to line or zone so that buildings are built consistently in relation to the streetline.*

xii) *Consideration should be given to including minimum facing distances from windows in habitable rooms, in the base as-of-right regulations.*

xiii) *Lot coverage restrictions are ineffective in achieving desired built form and should no longer be applied.*

xiv) *To encourage the consolidation and comprehensive redevelopment of lands in a limited number of significant locations in accordance with the City's objectives, urban design plans should be undertaken leading to the designation of additional height, density and related objectives in the Official Plan.*

xv) *To encourage small lot redevelopment rather than larger assemblies in certain locations, less stringent Zoning By-law regulations should be defined for small lots in these locations.*

xvi) *Parkland dedication rather than cash-in-lieu payments should be a requirement in developments on lots over a specified size in the implementation of Section 41 of The Planning Act.*

6. REGULATING LAND USE

There are two additional critical policy areas which have an impact on the question of *design and environment* when considering the regulation of residential development in the downtown. These are the questions of land use, dealt with in this chapter, and the question of open space and recreational facilities which is dealt with in the following chapter.

In Chapter 3, we concluded that Toronto's policy of encouraging a mix of land uses had produced positive results and should be retained and strengthened. As part of the discussion on built form and the structure of the City, however, we must address the most appropriate mechanisms to regulate the relationship or the mix between uses in an individual building, street and area.

6.1. From the Buildings We Studied

An analysis of the case study buildings indicates that the most successful mixed-use buildings have a retail/office base of three or more floors with a residential tower or slab set back above it.

This building type meets several objectives simultaneously: it locates uses in relation to their degree of "publicness", where the commercial uses give the building a greater sense of extroversion and animation along the street while providing the residential units protection from the noise of the street; it offers a lower building mass to give appropriate spatial definition and continuity to the street; it decreases the effect of winds by setting back the high-rise component; and it offers the possibility of space between high-rise buildings to provide light onto the street and sky views from it. Buildings such as 1132 Bay and Polo II demonstrate the advantages of locating a residential tower above a commercial base.

Few of the case studies are intensively mixed-use buildings. Market Square has retail at grade, with residential above, in an intensive retailing district. 111 Chestnut Street does not include retail, but includes offices. One York Quay is almost exclusively residential, with only a very minor component of retail. In the context of waterfront development, additional retail should be possible and would certainly be desirable.

The buildings studied and the approach followed in some of the other cities indicate a necessity for the City to be able to control the mix of uses on the ground level and the lower floors of a building. In some cases, it may be desirable to require retail, and in others, it may be desirable to prohibit residential. In certain locations, the requirement to contain "buffer" uses may extend to other levels.

6.2. The Approach in Toronto

The Current System of Use Control

The designation of the permitted uses of land is a critical component of any regulatory system. In past decades whole districts were designated for a single land use. Today, as discussed in Chapter 3, there is an acceptance that different land uses should ideally be mixed throughout the downtown. However, with the growth of mixed-use development, there is a corresponding need to consider more precisely how the various land uses should be deployed within the neighbourhood, along the street and even within a single building.

The current system of land use and development control in Toronto grew from the allocation of density to a single use, to one which now allocates density by land use, to a combination of different land uses. Because the system evolved for single use developments, it can be problematic when applied to developments which combine different uses on one site. For example, in Medium Density Mixed Commercial-Residential Areas, if commercial density is built alone, 2.0 fsi is permitted. If residential uses are built alone, 4.0 fsi is permitted. If mixed uses are contemplated, the maximum commercial density remains 2.0 fsi, and the remaining density can be devoted to residential use. Yet, each alternative if selected as the basis for a development would likely produce quite different built form results.

Toronto's current system of development control goes no further than this. It does not specify how the various uses should be deployed within the site, i.e. the placement of the uses. Yet the distribution of uses on the site or within the building is often as important a public issue as the use or density permitted, and has become an important and legitimate area for development control policy. The requirement that many developments in the downtown include retail at grade level is the most notable illustration of this.

Existing development control policies only specify the maximum amount of commercial density permitted, and not how it should be distributed within the development. Thus, it is conceivable that on a large site, a relatively low permitted commercial density of 0.5 or 1.0 fsi could be consolidated within a single high-rise building in a remote part of the site. From the public policy point of view, a preferable result may be to have the commercial density distributed at grade and addressing major street frontages, in order to stimulate street activity and produce a building which relates well to the street at grade level. This street related distribution of commercial use was likely the implicit intent behind the inclusion of a commercial component in the zoning, and thus its consolidation in a single high-rise form in a remote location on the site would contradict the built form result which was sought.

Regulating the Placement of Uses

It is therefore proposed that the location of particular land uses on sites in the downtown be specified more directly, in order to achieve built form objectives. Thus, the control of land use should be more place-specific, defined in relation to meaningful sub-areas of the site or building, in the context of the street or district, rather than by abstract non-place specific density and use rights. This sort of place-specific approach to land use locations mirrors the system proposed for the control of bulk and density. The objective can be achieved by designating land use rights by sub-area of the site (e.g. an area defined as being within a fixed depth from a main street) and/or by building storey. This produces a direct translation into a regulation which is simple to use and easy to understand.

The placement of uses would occur within the development control framework already established by the height and density framework proposed earlier in this report, and elaborated further in Chapter 9.

For example, it may be desirable to encourage retail at grade along a main street, and allow up to three floors of office above. In order to achieve this, a sub-area of the site would be defined to a depth of a specified number of metres along the main street frontage. This sub area would be given a designation which would specify the types of uses possible within the sub-area, and by storeys if deemed necessary. In this case, it would specify retail on the ground floor and commercial for floors 2 to 4 inclusive. To maintain flexibility and encourage the development of housing, residential use would be permitted for the full height of the building above the ground floor, including floors 2 to 4. On the remaining sub-area (or remainder of a large site), only residential use might be permitted on all levels.

Greater Flexibility while More Accurately Targeting Public Concerns

This system is more flexible than the current system of land use control because it does not strictly specify the amount of density that can be devoted to each use, as does the current system. Only the placement of the uses within the development is specified *when deemed necessary*. The uses within these buildings might even be allowed to change over time as market conditions change in the downtown.

The degree of control over the placement of uses may indeed vary by area of the city or by street, according to public goals defined by the City. There are many areas in the city where, from the public perspective, the use makes little difference and could ideally be left to the market to determine. In such areas, the regulations could permit buildings containing any or all uses: retail, office, institutional or residential, to the full height, within a fixed depth from a main street. Buildings along a typical retail strip such as Yonge, Dundas or College Streets could benefit from such a flexible designation which does not specify any particular use. On the other hand, there are areas in the city where the distribution of uses would indeed be a matter for public control. For instance, a residential street in the downtown may permit only residential use.

Area of flexible "any use" designation

This approach would enable the City to readily achieve its desired local objectives, particularly at grade level and on the lower levels of a building. Where the City intends that there be no residential at grade level along a street, that level of all buildings to a certain depth along that street could be designated to exclude the residential use. Similarly, where it is determined that the first three storeys might well be used for offices or institutional use, then these levels could be so designated.

The kind of office space which might be developed in such buildings would also offer an alternative to the type of office use found in the towers in *mixed-use office* areas. This alternative office type caters to small tenants who would accept a lower quality office space and environment in exchange for lower rents. Thus, it caters to small incubator businesses, assists in the integration of work and residential locations throughout the downtown, and thereby adds to the vitality of the city.

This mechanism would, for example, allow the City to encourage office development in residential buildings while ensuring that it is appropriately located on the site or within the lower storeys. Consequently, it provides greater guarantees of an appropriate relationship between the two land uses, not only in the individual building, but also on a street or area-wide basis, should the regulations so intend. Furthermore, residential use would be encouraged because the upper portions of buildings in many districts would likely permit only residential use.

This is the most direct, simple and understandable way to ensure that mixed-use development is encouraged throughout the downtown. Through this approach, we propose to refocus public attention on matters of *design and environment* in seeking an appropriate building typology for the downtown.

In Chapter 5, it was proposed that density become secondary to built form through height and other built form regulations. It is equally important that the City apply the same principle to land use regulation.

Recommendations:

6. i) Land use designation should be separated from the allocation of density rights.

ii) Flexibility of land use control should be encouraged where possible, and land use should be regulated primarily where specific land use outcomes are desired.

iii) Where land use is to be regulated, it should be allocated either

- *on the basis of its location on the site, by defining the depth of use from a street; and/or*
- *on the basis of the intended built form, by building storey.*

7. OPEN SPACE AND RECREATION

One of the most critical aspects of a regulatory system for residential development is the manner in which it deals with the question of open space and recreational facilities.

The "tower in the park" building type always included a large element of open space at the ground level. When it was first built, this was considered to be an amenity for the residents, as a replacement for the private backyard. It was also seen as a necessary semi-private transition space between the high-rise tower and the surrounding properties which were often low-rise. The requirement for open space at grade level remains part of the regulations for residential buildings in residential areas, in which a large proportion of the lot, in some cases up to 50 percent, must be kept open and a large part of that open space must be landscaped.

The landscaped area of the tower in the park, lacking in privacy and amenity, went largely unused by building residents, though it has provided a number of pleasant green open areas along certain streets. In the early 1970s, some large buildings or complexes of buildings started to include recreational facilities in order to attract tenants. These private recreational centres offered a variety of sporting facilities such as squash courts, gyms, billiard and table tennis rooms, party rooms and even swimming pools. These facilities were seen as a lifestyle inducement to tenants, beyond what could be found in a low-rise house.

At the time of the 1976 Plan, it was felt that streetscape continuity was most important in the downtown. Therefore, in mixed-use areas the requirement for open space at grade was dropped entirely. It was replaced with a requirement for shared recreational facilities for the residents and personal recreation space for each unit in the form of a balcony. Replacement for the private garden was seen to be the balcony, where at least private access to the open air was guaranteed.

7.1. From the Buildings We Studied

Public Open Space

Very little public open space has been provided in association with new development since the 1976 Plan. Where it is provided, it is in the form of mid-block routes, courtyards at or near grade, water's edge routes, street arcades or plazas. Where these are planned as part of a project, they are generally effective, although not always well designed.

One of the most successfully planned public open spaces is that in Market Square. It has clearly marked entrance points, forms a pathway form one landmark to another, and is made lively by street-related retail along its path. Furthermore, the terraced medium-rise and medium density buildings on either side of the courtyard allow for sunlight and do not overwhelm the pedestrian. The plaza in front of Polo II is also an active space, enclosed by the building's podium with retail at grade.

Several projects used an extensive amount of space at grade for private driveways, entry courts and vehicular drop-offs. In this space, there is consistent conflict between vehicular and pedestrian traffic, with vehicles dominating. These spaces are usually landscaped for visual benefit only; they are not used for recreation, are usually residual in character and do not serve the role of mediating between the building and the public street.

Other projects left minimal amounts of space. At 111 Chestnut, for example, the open space is not effective, due to its residual spatial character and unpleasant microclimatic conditions.

Other than Market Square and Polo II's front entrance, the building case studies offer very little publicly accessible open space that is not, in some way, residual. The suburban setbacks, ambiguous spaces and vehicle drop-off areas of most of the buildings constitute the only public open space offered. Minor public open space at grade, which is ineffective due to its residual spatial character and unpleasant microclimatic conditions, should be avoided. It is important for such public open space to be positive spatially, environmentally and socially.

Successful public open space

Vehicular drop-off

Recreational Facilities

In complying with the By-law's requirement to provide a specified amount of shared recreation space, the buildings have offered a range of amenities. The nature of the amenities depends on the building type, and these amenities receive varied levels of use. The more expensive condominium developments offer swimming pools, saunas, whirlpools, exercise rooms, squash courts, billiard rooms, sundecks, roof top terraces, elegant lobbies and meeting/party rooms. They are all well maintained but, according to private developers and building managers we talked with, are used on a regular basis by only a small number of the residents.

The more moderately priced buildings such as 350-390 Queen's Quay and 111 Chestnut offer much less: small meeting rooms and exercise rooms void of any equipment and located in the basement; and roof top terraces which are minimally landscaped. 350-390 Queen's Quay also has a sauna in each building. This recreation space appears to be inadequate for the social and recreational functions that the residents wish to partake in.

Of the buildings studied, these latter two have the largest number of families with children. In fact, though family-sized units were provided in all of the buildings studied, only these two, each containing a social housing component, showed significant numbers of residents under the age of 20 (111 Chestnut had 38 percent and 350-390 Queen's Quay had 24 percent).

The children's recreation space at 111 Chestnut and 350-390 Queen's Quay appears to be inadequate for safe and healthy play. At 111 Chestnut, the indoor space is small, in the basement and not accessible to the children, so they play in the corridors. The outdoor space is a paved surface on top of the parking garage, wedged between the residential tower and the office space at 112 Elizabeth. This space receives no direct sunlight. At 350-390 Queen's Quay, the children's play area consists of a minimally landscaped and equipped surface above a parking garage, directly across from the Gardiner Expressway. This area is easily accessible only from one of the two buildings.

The recreation space of the co-operative building in the Polo I project appears to be much more successful. The building's low height and inner courtyard permit parent surveillance of play in a safe, ground level environment.

The other buildings studied offered almost nothing geared towards children's play, despite the provision of family-sized units. Some buildings had table tennis equipment set up in party rooms in order to keep the children out of the hallways (62 Wellesley Street West and One Park Lane), but no space designed specifically for young children's play.

It is apparent that families generally do not find adequate facilities to suit their recreational needs in Toronto's downtown. If family living is to be encouraged downtown, the City should ensure that buildings offer an environment conducive to social interaction and safe and healthy play. Guidelines should be established which regulate the location and design of recreational space and children's play space in downtown residential buildings.

Balconies

Private open space generally means any open recreational space, provided for the use of residents, which is directly accessible from an individual unit. It usually refers to balconies, although occasionally it refers to at-grade patios. Open balconies are not provided in most of the buildings we studied, but some units have low roof terraces at different levels, or patios at grade for ground floor units. Enclosed balconies are provided instead and these are often converted into living space which is indistinguishable from the unit.

7.2. From the Cities We Studied

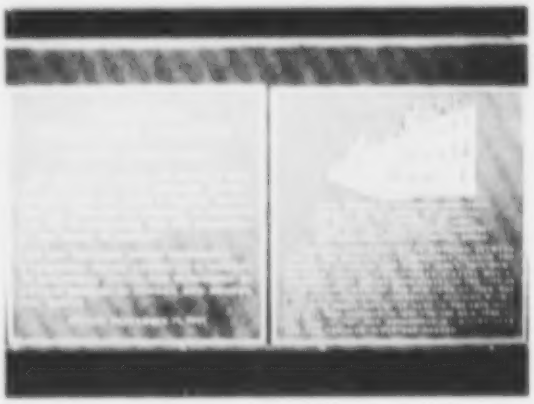
Public Open Space

Most of the cities studied require some form of public open space in relation to medium or high density residential development. In some cities, density bonus incentives are given for public open space provision.

In New York, the open space requirement for residential zones is often a part of the bulk and density controls. In some cases, a percentage of the floor area of a building must be provided as open space. Often the setbacks and yard requirements define this open space precisely. "Pedestrian Circulation Space", including sidewalk widenings, corner circulation space, arcades and through-block connections, must be provided in some form, proportionate to a building's total floor area.

In the most dense residential district and in commercial zones, there are no requirements, but there is an as-of-right plaza bonus. Extra density is provided in return for a plaza that conforms to specified standards. In Midtown, incentives are offered to developers to provide urban parks. Development rights may be transferred from the open space, provided the total fsi of the resulting development is not increased by more than 20 percent. In return, the park must meet certain criteria: it must be at least 327 square metres in size, located on the north side of the street and be publicly accessible.

New York also has an interesting requirement whereby developers must post a notice on the building describing the extent and amenities of the public space. For example, the IBM building, which includes an enclosed garden, has a brass notice fixed to the wall which describes the space as being publicly accessible, the hours it is open to the public, the number of public chairs and tables provided, etc. In this way, building tenants and the public know what they can expect many years after the construction of the building, and the original parties to the agreement are long gone.



Toronto precedent for a notice of public space

In San Francisco, outdoor open space is required in all districts where residential uses are permitted, and minimum standards and dimensions are set. For residential buildings in commercial zones, open space may be provided off-site, provided it is within a radius of 274 metres, to allow for the creation of larger, consolidated spaces. Like New York, San Francisco requires that signs be mounted in public spaces, listing their features.

Boston requires that high density developments provide 7 square metres of recreation space for each dwelling unit. This space may be provided either indoors or outdoors. Because Boston's redevelopment sites tend to be small, the ability to provide open space at grade in each individual development is constrained. Instead, Boston's Redevelopment Authority places an emphasis on identifying where open space is needed in a given neighbourhood, and on attaining such space through their large lot review process or the procurement of funds from developers for the acquisition of public open spaces during Development Review.

In Vancouver's high density residential and downtown districts, there are no open space requirements. If open space is provided, however, there are design guidelines which should be followed. In some comprehensive development districts, the open space requirements are much more specific. Parcels of land are identified and required to be conveyed to the City without cost.

In Calgary's business districts, developers must provide public open space as a specified percentage of the net site area, depending on the district, subject to design guidelines.

Recreational Facilities

Vancouver is the only city of those studied that requires private developers to provide recreational facilities in addition to open space. In some comprehensive development districts, there are specific requirements for facilities such as community centres, daycare, multi-purpose rooms, libraries and land for schools. The provision of these facilities is excluded from floor area limitations. According to private developers, the space they provide is in demand in high density buildings. Prospective purchasers like to see these facilities in the building. Therefore, developers would provide them in the high density buildings even if there were no requirements. In lower density projects, the target market does not want these facilities, and the maintenance fees would be too high.

There are also further inducements in Vancouver for the provision of public facilities. In many zoning districts where social, cultural or recreational facilities are desired, a development permit may be granted to increase the fsi of a building to permit the inclusion of the facility. Facilities are allowed based on a list of City needs in a sub-area. Under these conditions, the space must be transferred to a public agency through a registered agreement. Usually this means that the City owns the space and a non-profit corporation will program it.

Balconies

Open balconies are exempt from floor area calculations in many of the case study cities, presumably as a means of encouraging their provision. Only San Francisco and Calgary require the provision of private space which is to be provided on a per dwelling unit basis. In San Francisco, it is possible to substitute common space for private space. Both cities have dimensional standards which must be met.

In Vancouver, enclosed balconies may be excluded from floor area for the purposes of calculating the fsi, subject to certain conditions and size limitations. There, as in Toronto, enclosed balconies are not considered a habitable room. Where glazing is provided, it is expected to be detachable or demountable, so as to allow conversion to an open balcony, if desired. Inside glazing (i.e. between the unit and the balcony) must be maintained and is justified as a means of preventing fire from spreading between units. In San Francisco, enclosed balconies are not exempt from the calculation of floor area and do not count towards open space requirements unless a substantial part of them can be opened to the outside.

7.3. The Approach in Toronto

There are two interrelated issues dealt with here: the question of open space as a public amenity; and the need for private recreation space for residents. The public need for open space translates into the provision of visual relief and green space, as well as places to sit in the sun and enjoy the outdoor environment. The private recreation question deals with the needs of the residents of the downtown both outside and indoors. Public open space and recreation may well coincide, but they often do not.

7.3.1. Public Open Space

There should be more open space than is currently provided in downtown. This open space can take two forms: that which is located on a private development site which may or may not be publicly accessible; and larger consolidated parcels which constitute parks or parkettes and are in public ownership.

Open Space on Private Land

With the trend towards increased intensity of development, encouragement of streetscape continuity and the base of buildings covering the lot, the supply of open space as part of new development is increasingly rare. The recommendations contained in this report, emphasizing lower scale buildings, will also not encourage more open space on the lot.

However, this does not preclude the identification of key locations throughout the downtown where the regulations might be varied in order to create open space. This space could either remain part of the private realm but be visible from the street, or be publicly accessible. This open space must be located where microclimatic conditions are suitable, be well designed and usable for the intended purpose. It should not take the form of vehicular drop-offs as described above.

Such open space cannot be identified as part of the base as-of-right regulations applicable to all property across the downtown. Instead, it needs to be identified through the urban design plan process for a particular district, street or even large development. With smaller lots, there may be a need for coherent open space strategy for a particular street; for example, wider landscaped setbacks. The open space could be achieved in these cases through such mechanisms as defining setbacks or other built form controls which would create the opportunity to develop attractively landscaped space. However, for many smaller lots no private open space need be required.

Public Park Space

The lack of adequate public park space constitutes a major concern in the downtown. Parks are generally provided by the City in residential neighbourhoods. These are equally a necessity in the downtown and must be provided by the City. Like schools, they should be a precondition for development.

Since the creation of significant public park space is so important and so difficult to achieve in the downtown, the awarding of additional height and/or density as an incentive to private development is warranted. Such a bonus is likely to be sufficiently rare that its parameters can be clearly established in the Official Plan, and its implementation conditional upon a rezoning. The Official Plan could define performance standards for such public parks dealing with matters such as size and shape, microclimate and access. In

Public park

addition, the maximum levels of such a bonus should be established in the Official Plan from the outset, to establish certainty and clarity for the development industry and the public.

Built form certainty has been advocated consistently in this report. The mechanism of the urban design plan is intended to offer a process for the public review and evaluation of built form proposals which exceed the base as-of-right zoning. It is essential to ensure that the built form which results from such a *park bonus* is fully and publicly understood and evaluated. Therefore, a precondition for the approval of such a bonus would be a comprehensive review of both the park being created and the impact of the bonus on its site through an urban design plan.

Section 41 of The Planning Act requires all developers to give between two and five percent of their lot for public park space. The Act also provides for a cash payment in lieu of the land requirement, subject to the municipality's discretion. Significant public open space is only realistically achievable on large, comprehensively planned lots. Therefore, on lots over a certain size, the Section 41 park requirement should be taken in the form of land, subject to specific performance criteria. These criteria should preclude the possibility of residual or inhospitable open space by defining minimum dimensions, landscaping standards, and "comfort" criteria such as hours of sunlight.

7.3.2. Recreational Facilities

The development of a substantial and growing residential population in the downtown has taken place on land that was primarily non-residential in the past. Thus, the usual community infrastructure associated with residential development such as parks, community facilities, schools and recreational facilities do not necessarily exist. Instead, major regionally oriented facilities for education, recreation and entertainment, which cater to the whole city, are found in the downtown.

The type of person who chooses to live in the downtown is often seeking a different lifestyle than is found in the low-rise neighbourhoods. There tends to be a predominance of younger working age people as well as "empty-nesters" who seek the active lifestyle associated with the downtown and take advantage of the major regional institutions and private recreation and entertainment infrastructure which exist there. Also, the large number of expensive condominium developments attest to the fact that many downtown residents choose the resources of the downtown and can afford to pay for their own recreation and entertainment. Finally, the buildings we studied have shown that the population in the downtown tends to have a low proportion of children, who constitute the segment of society most in need of community infrastructure.

Mixed-Use Office Areas

This very general population profile is particularly true for the areas which we have characterized as being mixed-use office areas. In those areas of the City where high-rise office towers predominate, such as Bloor Street and the Financial District, we expect a continued growth in luxury residential development which should continue to be relatively self-sufficient in terms of community infrastructure.

There should, therefore, be no requirements for major community or private recreational facilities in residential buildings in mixed-use office areas, as these have traditionally been very adequately supplied by the market, to meet the needs of the residents. However, where such facilities are provided in response to market demand, they should be permitted free of density. Maximum size limitations should however be placed on these facilities to ensure that they do not become distortions to the anticipated built form.

Mixed-Use Residential Areas

The mixed-use residential areas are quite different. Here, there is a much more mixed population. There is a larger number of social housing developments which the City is, by policy, encouraging throughout the downtown. In these developments, families with children are found in larger numbers. These are frequently people of more limited incomes who have less ability than the condominium owner to purchase their community infrastructure needs.

It is equally true to say that market conditions are liable to change over time and it is quite possible that more families and people with relatively lower incomes will be found in the private market buildings within the downtown. Thus, within mixed-use residential areas, the City has the same responsibility towards residents as it has in other low-rise residential neighbourhoods.

- ***The City Must Provide Community Facilities***

The lack of appropriate recreational and community facilities for older children, aged 8 to 15, is a major concern. The downtown is often not very safe for children. It has high levels of traffic and offers quite inappropriate commercial distractions. This age group requires supervised activities outside the home and it is the City's responsibility to provide them.

Community services and recreational facilities which tend to be large scale, cater to large groups of people and are expensive, such as parks, swimming pools, sporting facilities and libraries are generally provided by the City in residential neighbourhoods. These are equally a necessity in the downtown and must be provided by the City; like schools and parks, these types of facilities should be a precondition for development rather than an afterthought.

Land for a major public community facility is often difficult to acquire in the downtown and some of these facilities would function best as part of a mixed-use development, which may be private. Provision should be made in the regulations for the awarding of extra height and/or density in return for the public facility when it occurs. Such a bonus is likely to be sufficiently rare that its parameters can be clearly established in the Official Plan, and its implementation conditional upon a rezoning. The Official Plan could define the criteria which should be used in evaluating the need

School and co-operative included in St. Lawrence Neighbourhood

for and the extent of such facilities. In addition, the maximum levels of such a bonus should be established in the Official Plan from the outset to establish certainty and clarity for the development industry and the public.

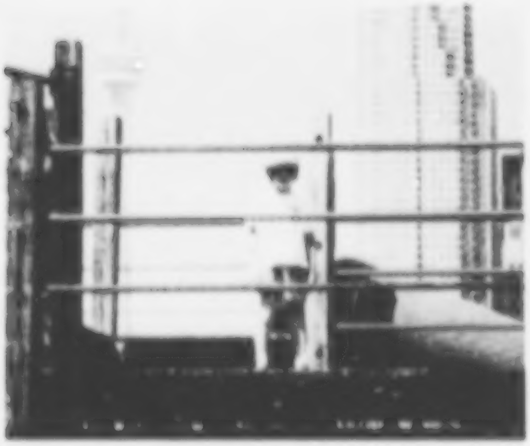
Built form certainty has been advocated consistently in this report. The mechanism of the urban design plan is intended to offer a process for the public review and evaluation of built form proposals which exceed the base as-of-right zoning. It is essential to ensure that the built form which results from such a *community facility bonus* is fully and publicly understood and evaluated. Therefore, a precondition for the approval of such a bonus would be a comprehensive review of the impact of the bonus on the site, with the inclusion of the community facility, through an urban design plan.

On a smaller scale, it must also be determined whether common recreational facilities, in the form of a pool, gym, or exercise room should be required in each individual building. The provision of these facilities substantially raises the building cost and consequently the price of the unit. Their continuous and ever increasing maintenance fees add to residents' monthly costs. Since only a small number of residents, in effect, use these services, and the City theoretically provides such recreational services from municipal taxes, these services should not be required in each building. However, where such facilities are provided, they should be permitted free of density. The additional density should be limited so that the built form intentions are not compromised.

■ *Common Open Space Should Be Required in Each Building*

Although we suggest that shared recreational facilities should not be required, the residents in each private residential building continue to have some basic needs which should be provided in each building. The most critical is open space where residents can enjoy the outdoors. Children and seniors are the two most vulnerable groups who would find it difficult to seek open space away from their home. Thus, the most important need is for some space in which children can play and seniors can sit.

An assumption is made that children can be expected to live in all buildings in the mixed-use residential areas. Thus, there should be a requirement for landscaped open space, a portion of which should be contiguous and enclosed for winter and inclement weather, which can be made safe. This open/enclosed space could be located at grade or on a podium level close to grade, for easy access



Children's play space

and surveillance. The enclosed space should be exempt from density calculations. The plans for the improvements of these areas should be subject to approval by the City as in the case of public open space landscaping, and should form part of a Section 40 agreement.

- ***Residential Buildings Should Provide Meeting Space***

In addition to common open space, another basic need in individual buildings is communal meeting space. This type of space was found to play an important social function in allowing residents to get together for administrative, political or social functions. The meeting room is integral to the development of a sense of community, by affording residents the opportunity and the place to get together, replacing, in a certain sense, the church basement or school gym of the lower density neighbourhoods.

Moreover, experience from the buildings we studied indicates that these spaces function best when they are in a visible location, either at grade adjacent to the lobby, adjacent to the laundry room where applicable, within space at grade normally attributed for retail use, or even adjacent to the landscaped open space discussed above. These spaces should not be residual. Furthermore, daylighting requirements should be established in order to create a pleasant, inviting environment. This space should be exempt from density calculations.

In order to ensure that tenants and/or condominium owners are actually aware of the facilities which the original developer has undertaken to supply, a permanent notice, similar to that used in New York's public open spaces, should be fixed in a visible place in the lobby to describe both the private and public amenities which are provided for building residents.

7.3.3. Balconies

As often stated in this report, the regulation of development is divided into those matters which deal with the public realm and those which deal with the private realm. Our emphasis has been on strengthening the public realm aspects of the regulations since the private market seems to have adequately addressed the needs of owners and tenants within buildings. The same principle applies to the regulation of balconies in downtown residential buildings.

The issue of balconies has been a controversial one in Toronto, centred to a large extent on the recent common practice of providing "enclosed balconies" which do not represent personal recreation space as intended by the

By-law, because they are, in effect, extensions of the indoor living area of a condominium unit.

We have seen, however, that the private market has responded to the desires of residents in all aspects which relate to the individual unit, and the popularity of enclosed balconies is simply another indication of this process. Clearly, outdoor private space is not a necessity and its provision should therefore be left to the market to determine. Therefore, balconies, or personal recreation space, should not be required, but provided by the developer as the market demands.

Balconies should however be considered an amenity and a signal of residential use within the city. In this way, they should be permitted in open balcony form, to a maximum limit, without being counted as part of density. Enclosed balconies should, on the other hand, be included as part of density, as their provision adds to the bulk and the general massing of the building.

Recommendations:

7. i) *Landscaped open space should be secured through built form regulations such as setbacks. These are to be implemented through urban design plans.*

ii) *On-grade vehicular driveways for drop-offs or turn-arounds on the lot conflict with the appropriate relationship of the building to the public realm and with creating useful pedestrian open space at grade level. They should be prohibited in the downtown.*

iii) *The City has an obligation to provide adequate parks in the downtown as a precondition to residential development.*

iv) *On large lots over a specified size, public open space rather than money should be secured as the first priority through Section 41 of The Planning Act.*

v) *A limited number of height and density bonuses may be awarded for the creation of public parks in the downtown, following an urban design plan review of both the proposed park and the location to which the bonus is to be applied.*

vi) *In mixed-use office areas, there should be no requirement for public community infrastructure to cater to the surrounding residential population.*

vii) *In mixed-use residential areas, the City has an obligation to provide the full range of community infrastructure as a precondition of residential development.*

viii) *A limited number of height and density bonuses may be awarded for the creation of major public community facilities in the downtown, following an assessment of the need for the facility and an urban design plan review of the proposed development.*

ix) *In mixed-use office areas, there should be no requirement for any form of recreation space to serve building residents. Where open balconies or recreational facilities are provided, these should not be counted as part of the permissible density, up to maximum limits.*

x) *In mixed-use residential areas, all buildings should be required to provide secure common open space for children's play or for quiet relaxation, a portion of which should be contiguous and enclosed for inclement weather. This space may be at grade or on a podium deck, subject to performance criteria.*

xi) *In mixed-use residential areas, all buildings should include space for meeting rooms. These spaces should have natural light, be located in a visible location either at grade adjacent to the lobby, as part of the retail space, or adjacent to the open space. They should not be counted as permissible density, up to maximum limits.*

xii) *In mixed-use residential areas, where recreational facilities are provided, these should not be counted as part of the permissible density, up to maximum limits.*

xiii) *Building owners should be required to fix a permanent sign(s) describing the public and private amenities which are provided in the building.*

xiv) *Balconies should not be required but, when provided in open balcony form, should not be counted as part of the permissible density, up to maximum limits.*

8. SOCIAL OBJECTIVES AND BONUSING

The previous sections of this report have dealt in considerable detail with the whole question of *design and environment* and have proposed a regulatory system which is geared to producing predictable and understandable built form results. We must also deal directly with the question of *value and equity* and its relationship with the regulatory system proposed thus far.

8.1. From the Cities We Studied

All of the case study cities have provisions for density bonuses in order to achieve varying public benefits, such as ground level retail, daycare, community services, theatres and high quality design. The most common benefit that most cities attempt to achieve through bonusing is public open space.

These bonuses are subject to maximum density limits, with the exception of Chicago, where the bonus densities may be added to already significant densities reaching an fsi of 16. In cities with stringent development review procedures, the receipt of the bonus is subject to a careful review that must satisfy a series of design guidelines, height limits, sky exposure setbacks, daylighting requirements, etc.

Most of the case study cities, with the exception of Chicago and Calgary, also have tools to ensure the provision of affordable housing in their zoning by-laws. New York has an Inclusionary Housing Program, whereby densities may be increased in certain high density districts if affordable units are provided either on or off-site. These units are covered by covenants that bind owners and successors to maintain them as low income units for the life of the building. If the units are located off-site, the buildings must be designed and developed at the same time.

Boston and Vancouver have linkages, requiring either levies, land or units for certain development rights. San Francisco has both inclusionary zoning in residential developments, requiring a certain percentage of social units within each development, and linkages from commercial development. San Francisco also allows an increase in the maximum number of units as well as an increase in gross floor area, over and above the basic fsi, for the provision of social and seniors' housing. Such increases are subject to the satisfaction of stringent height and bulk limitations and microclimatic criteria.

8.2. Since the 1976 Plan

A major policy thrust of Toronto's 1976 Plan was to ensure that social housing would be produced in the downtown. The 1976 Plan established a set of regulations that offered a density bonus in return for the private development of social housing. The intent of this bonus was that building owners would be permitted an additional twenty-five percent in residential development potential, provided the additional units would be used for social housing. A major housing program at that time was the rental supplement program whereby the senior levels of government supplemented the rents of certain tenants, in relation to their ability to pay. Thus, the developer received market rents on the additional units and the incentives assisted in creating more social housing units. The buildings were incidentally also socially mixed.

In general, this policy has been relatively unsuccessful. The bonus is said to have been useful in assisting some non-profit developers to compete for land against the private market and to create buildings of comparable bulk to those built under the units per hectare system. However, it has failed because of problems associated with the programs of the senior levels of government, as well as with developers' resistance to socially mixed buildings. This resistance has become even stronger with the prevalence of condominium buildings which would have to be mixed not only in income, but in tenure as well. The dearth of construction of rental buildings since the 1976 Plan has exacerbated the situation.

While this bonus regulation has failed to directly achieve its objectives, it indicated clearly the underlying policy direction current in the City of Toronto at that time - that the City was prepared to contemplate trading density rights for social housing.

The 1976 Plan did not focus on the questions of *design and environment* and, therefore, the distinction made between the permitted bulk of social housing and that permitted for market housing had no obvious physical implications, particularly where the units per hectare system had no limit on building bulk. However, the objective of creating regulations which result in predictable built form conflicts with allowing as-of-right increased density for social housing.

It is interesting to note that the City has been far more successful in gaining social housing through negotiations leading to the trading of density rights for social housing or other public benefits, than it has through the direct application of the as-of-right 25 percent bonus. It has secured a considerable amount of land and money for the development of social housing in return for additional commercial development rights on projects primarily in the Financial District.

Public concern has arisen largely from the fact that this system of bonusing for social housing, and indeed for other social and public objectives, is not clearly established in the regulations. It has been done primarily on an ad hoc negotiated basis under the general provisions of Section 36 of the Planning Act.

8.3. Understanding Bonusing

There exists a tension between what can be sought through prescription from a development and what needs to be rewarded through a bonus. This is both a question of planning and political philosophy, as well as a matter of practicality. There are those regulations, such as requiring open space to be included on a lot, which are directly related to the building and its presence in the city. Then there are others, such as the provision of major public facilities, which go beyond what can normally be expected in relation to a private development proposal.

Yet such facilities are needed and the land on which to situate them is often in private hands. Acquiring the land to accommodate them is an expensive proposition and there is therefore considerable merit to providing incentives for developers to incorporate a community facility within a larger mixed-use development. The most effective incentive is the provision of a bonus. Bonusing is an inevitable fact of land use regulation and can be a useful tool for planning the city and ensuring that appropriate public infrastructure is created.

The City of Toronto, and indeed every municipality we studied, engages in some form of bonusing. This means trading additional development rights in return for a wide variety of public infrastructure and other social benefits. There are density bonus provisions in the current regulations to assist the City in achieving a number of clear public objectives, such as the retention of historical buildings, the creation of social housing and the accommodation of community facilities.

The debate about the question of *value and equity* in relation to downtown development is inherent in the process of bonusing. It arises from the fact that the concept of trading increased development rights in return for a wide range of public benefits is institutionalized in The Planning Act and in the City's Official Plan and Zoning By-law.

Although the Official Plan and the Zoning By-law establish clear rules for the type of bonus in relation to the benefit received, these only occasionally form the basis of a trade. Once the issue of trading development rights for density is opened, the range of desirable public benefits is endless. The creativity of developers is legend in offering important and badly needed facilities which extend well beyond the limits defined in the regulations and require a specific set of rules for considering such a proposal.

The majority of the bonus transactions between the City and developers are the product of a complex negotiation. These negotiations can only be understood by a few individuals who have to weigh the value and importance of the benefit received against the value and the physical impact of the additional development rights awarded. It is precisely these negotiations, over *value and equity*, which have brought the regulations into question and clouded the issues surrounding development in the downtown.

It is neither possible nor desirable to rule out a system of bonusing. There will always be the need to recognise, compensate and actively reward private developers for the achievement of certain social and public objectives.

8.4. Establishing a Context for Value and Equity

Physical Infrastructure

In Chapter 7, it was recommended that bonuses for public parks and major public facilities should be included in the new regulations. The same conclusion likely applies to other items of public infrastructure such as the preservation of historical buildings. The application of a bonus should be seen as a rarely used regulatory tool reserved for matters of obvious public importance.

This report is not intended to address the method for determining the extent or value of the bonus, nor how the need for such a facility is evaluated. These issues are being considered by others as part of the '91 Plan. Instead, it is our purpose to establish a clear relationship between bonusing and the question of *design and environment*.

The first and basic principal that should be adhered to in order to ensure that matters of *design and environment* are properly evaluated in considering any bonus, is that there should be no as-of-right bonus above the base as-of-right zoning. Any proposed bonus should be understood as being a serious question which requires careful public evaluation through a required reasoning process.

The next test which should be applied in deciding whether a bonus is warranted is to ask whether the city benefits from the public facility by virtue of its location on the particular site under consideration. In this way, there is a direct and understandable relationship between the public benefit gained and its impact on its neighbourhood. The new facility can be weighed against the additional height and density on that site and in that part of the city. Thus, bonuses should be considered mostly where they will produce the public benefits in the location at which the bonus is to be received.

There may be limited exceptions where the additional development rights cannot be used on the subject site and must be transferred elsewhere. Examples are in the retention of historical buildings and the creation of public parks. In these cases, both sites should be evaluated at the same time so that the implications of supporting the bonus can be understood in both locations.

The next critical step in establishing a clear context for bonusing is to articulate the implications for *design and environment*. The regulations established in this report will achieve this objective. They produce a base as-of-right definition of built form which is permitted on a lot, together with the allocation of land uses. The as-of-right permitted development will be easy to understand and will serve as a basis for comparison and public evaluation.

The final step is the urban design plan. Before any bonus can be applied, an urban design plan should be prepared which clearly demonstrates the impact of the development with the inclusion of the bonus as well as the new public facility. Thus, the full physical implications of granting any additional height or density will be easy to understand and may be publicly discussed. Where an urban design plan already exists for an area on which the bonus is being contemplated, an amendment to that plan would be necessary so that its built form implications can be evaluated against the previous plan.

Thus, in summary, all bonuses would require a reasoning. The Official Plan would clearly define:

- the items for which a bonus is considered to be appropriate (parks, recreation centre);
- minimum performance standards for each item;
- the method by which each item is to be evaluated; and
- the maximum limits within which any combination of bonuses may be awarded.

Social Housing

Social housing is somewhat different from other issues of bonusing because a great deal of such housing is sought and the implications of bonusing in many locations can be significant if the bonus policy is successful. The proposed base as-of-right regulations are intended to encourage the production of the appropriate scale of housing for a certain location; the same is true for the vision established after an urban design plan is prepared.

Additional development potential and different standards in return for social housing may stigmatize that form of housing and create a fundamental breakdown in the rationale for the appropriate level of development awarded a particular property in the first instance. There should be as little as possible to distinguish between income status of housing in terms of the land market or the development's place in the city.

Social housing in the downtown

The primary instrument for creating a range of housing types will come from the public and non-profit sectors. The City, through its social housing program (Cityhome), Metropolitan Toronto and private non-profit developers carefully determine their target market and provide units that are appropriate for it, in much the same way as developers do for their markets. These developers should play by the same rules as all the other developers in the downtown.

Moreover, any mechanism to achieve social housing through the regulations should apply to all properties. This could mean that a certain proportion of all the base as-of-right height and density is cut back pending an agreement under Section 36 of The Planning Act. Developers would have to pay a levy in order to achieve the maximum permitted density. This would bring money to the City for social housing. However, this proposal would impede the achievement of the anticipated and desired built form. We would prefer a more direct "social housing levy" which might apply to every square metre that is built, be it commercial or residential.

A further alternative which could achieve the goal of one set of regulations for all forms of development would be inclusionary zoning. Regulations could well require that, subject to a defined minimum size of development, a certain proportion of all new buildings in residential mixed-use areas be reserved for social housing catering to specific household groups such as families, seniors or singles. In this way, the supply of social housing is assured and will keep pace with the supply of other forms of housing. The integration of social housing within the rest of the housing stock will ensure a mix of incomes throughout the City rather than the segmentation of lower income households in certain areas or buildings.

We should reiterate that it is not our purpose to provide answers to how social housing should be financed or secured by the City of Toronto. Rather, our objective is to urge that the physical implications of such policies apply equally to all properties to ensure the consistency and clarity of the built form regulation sought as a basic premise of this report.

Recommendations:

8. i) *Bonuses should be used only for matters which are of obvious public importance.*

ii) *The implementation of all bonuses should require a rezoning.*

iii) *Bonuses for public facilities should be used on the site on which the public facility is to be located, transfers of development rights only being permitted where this is not possible due to the preservation of historical buildings or the creation of a park.*

iv) *An urban design plan, or an amendment to an existing urban design plan, should be a prerequisite for the application of a bonus.*

v) *Maximum increases in height and density which may be awarded for bonuses should be established in the Official Plan.*

vi) *The Official Plan should define the facilities for which a bonus is applicable, performance standards for each type of facility and a method for evaluating the need for the facility.*

vii) *There should no longer be as-of-right density bonuses for social housing.*

viii) *The regulations should not distinguish between social housing and market housing in terms of the standards used.*

ix) *Policies to secure social housing should extend equally to all property.*

9. IMPLEMENTATION

Previous chapters of this report have established the principles for a new approach to regulating mixed-use development in downtown Toronto. In this chapter, more detail is provided on the implementation of these principles in a comprehensive system of regulation, through such mechanisms as base as-of-right zoning and urban design plans. Where appropriate, amendments to the Official Plan, the Zoning By-law and the related approval processes are recommended.

9.1. Preconditions for Residential Development in the Downtown

Built form and density are not the only contributing factors to "livability" in the downtown. Rather, housing forms must be complemented by an appropriate range of local amenities, including community facilities and open spaces.

While not directly related to the regulatory system, the encouragement of residential development carries with it an obligation on the part of the City to provide the same full range of city parks and community infrastructure in the downtown as is enjoyed in all residential neighbourhoods.

Downtown land is becoming increasingly expensive and the opportunities for the City to acquire land for parks will decrease as more land is redeveloped. In extreme cases, the City may have to resort to the powers of expropriation, or use land acquired for the purpose of social housing, to meet the needs of downtown residents. These major components of community infrastructure are not benefits which can be anticipated from private developers.

City provided open space

Therefore, as a precondition to the approval of significant new amounts of housing in the downtown, the City should:

9. i) Establish precisely the need for and location of parks and community infrastructure within the mixed-use residential areas of the downtown.

ii) Commit to meeting the identified needs for parks and community infrastructure in the Official Plan.

iii) Establish and fund an appropriate capital implementation program for parks and community infrastructure.

9.2. The Base As-of-Right Regulations

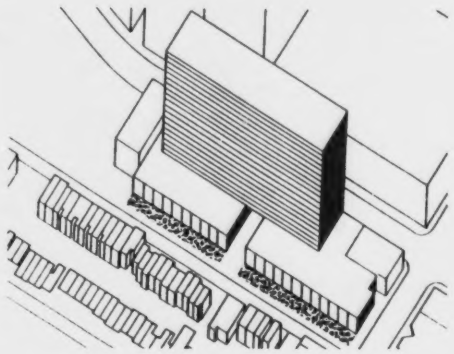
This report proposes that a new base as-of-right zoning be established in downtown Toronto. This base zoning would apply to all mixed-use areas.

9.2.1. Height and Density

One of our main conclusions is that there should be a renewed emphasis on additions and modifications to the public realm created by new development in Toronto. In particular, the City should concentrate on the impacts of built form in defining this realm. In order to optimize the positive contribution of new development, building heights and densities should be kept generally lower than in the past, except in those areas where higher increases are deemed appropriate. In such situations, urban design plans should be the basis for allowing such changes.

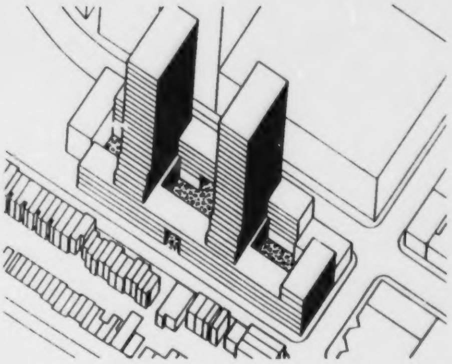
To implement the above objective, it is necessary to identify meaningful height-to-density relationships, and a height/density threshold which can serve as the appropriate limit for as-of-right development permissions. The identification of an as-of-right threshold requires a balancing of objectives. Building heights and massing have a tremendous influence on the way people perceive and react to the urban environment. They create the three-dimensional definition of the public realm, and influence the microclimatic conditions within it. Up to a certain point, a sense of enclosure is desirable. However, at some point a continuous building wall along a street edge becomes oppressive, blocks sun penetration on open spaces, and increases the potential for uncomfortable winds. Below the threshold, it should be possible to develop individual buildings on an as-of-right basis and still retain reasonable assurance that an appropriate overall composition will be incrementally achieved along a street.

Alternative Massing Studies for the Lexington



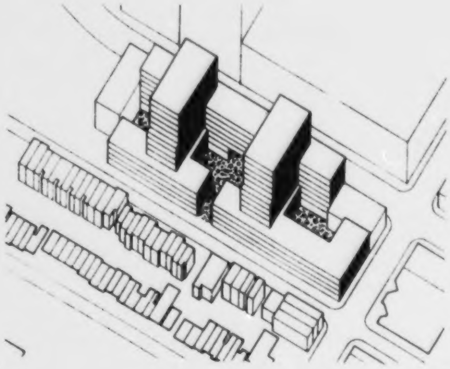
Existing

The existing density of 7.7x is deployed as a long 20 storey slab running parallel to Carlton with three storey townhouses as a base on Granby. The slab overshadows and overwhelms Carlton.



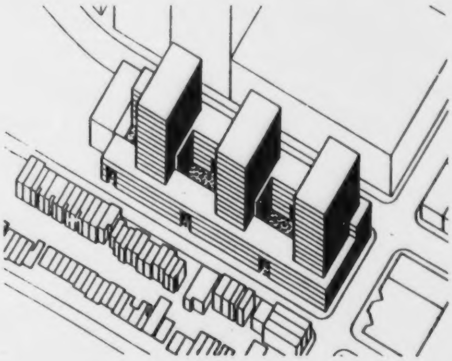
Alternative A

This alternative maintains the density but uses a four storey building on Granby and a six storey building on Carlton. Two short slabs run north-south and divide the central courtyard into three parts, the central one being public. The slabs, however, are 25 storeys high and would still likely create environmental problems.



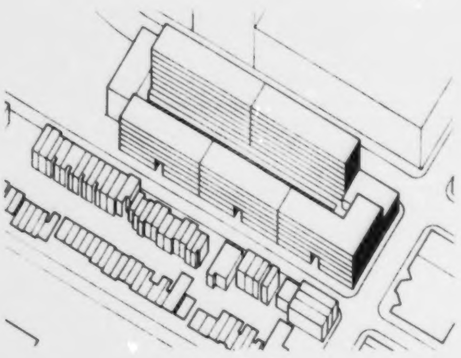
Alternative C

The previous alternatives demonstrate that the density is probably too high given the size, dimensions, and configurations of the site. At 4.0x coverage, a more reasonable configuration is achievable, on the same basic scheme as Alternative A.



Alternative B

The configuration of Alternative A was constrained by the building at the corner of Carlton and Church. Had this property been consolidated with the development, it would have been possible to use three parallel slabs, thereby reducing their height to sixteen storeys. However, even these would likely create unacceptable conditions.



Alternative D

Also at 4.0x coverage, a perimeter block configuration could be achieved with six and eight storey buildings. This would create good streets and environmental conditions.

We began by postulating a set of height-to-bulk relationships for fsi ranging from 1.0 to 9.0 and associated heights from 3 to 25 storeys. Quantitative testing of the height-to-bulk hypotheses was carried out using a data set prepared by the City dealing with existing residential and mixed-use buildings in the downtown. The next step in the exercise involved a qualitative review of all those buildings which fell within the hypothesized height-to-density relationships. The analysis was undertaken as part of the study and is reported in detail in Appendix V.

Building Types

As discussed in Chapter 4 of the report, Toronto's older residential neighbourhoods have been developed with reasonably consistent building types. This has provided them with the cohesion that makes them successful environments. Achievement of these characteristics is an important objective for the City's mixed-use districts as well.

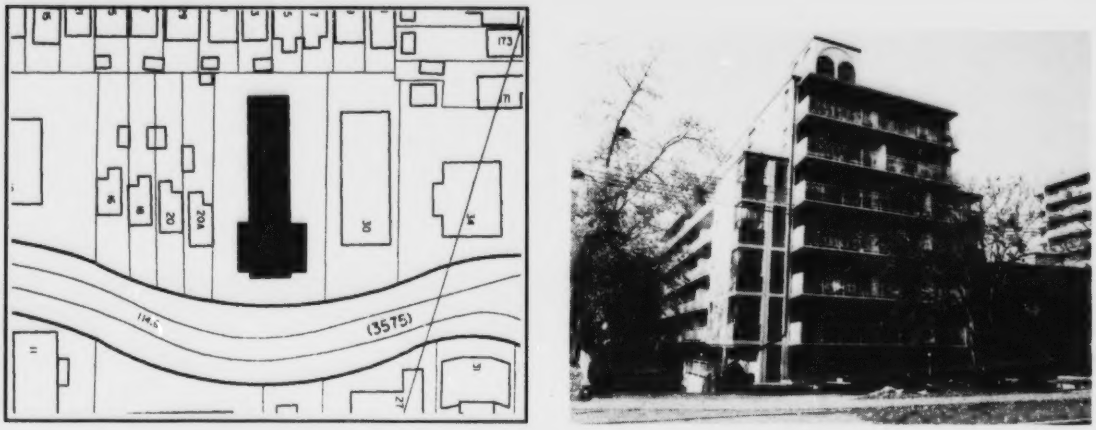
The City must have assurance that proposed height and density pairings are flexible enough to provide for the development of a variety of architectural solutions within a range of acceptable building types. Such variety is extremely important, since it would not be appropriate to recommend height-to-bulk relationships that would result in all buildings within a given category taking only one form due to the lack of flexibility in the way that the density could be deployed.

We identified several building types which are appropriate for new as-of-right development. The basic premise is that buildings and their related open spaces are the essential elements of city form. If building types are appropriate, their repetition and aggregation create clear and desirable relationships between the public and private realms. Our analysis suggests that an expanded mid-scale typology can be built around at least three essential building types.

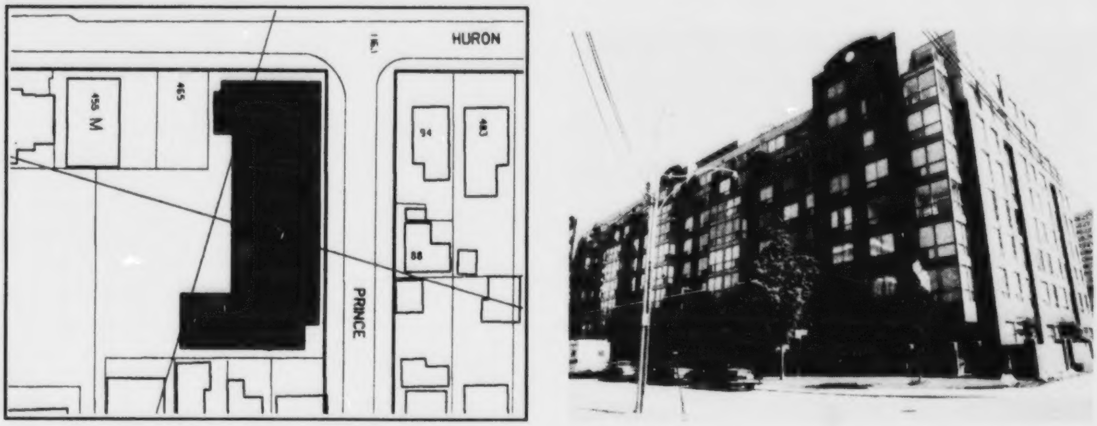
Establishing the Regulations

It is possible to establish a series of predictable relationships between height and density. Appropriate height and density pairings can thus become the basis of new as-of-right development provisions. The results of our analysis of the sample buildings demonstrate that several appropriate, consistently repeatable building types can be identified in the 6 storey/2.0 fsi; 8 storey/3.0 fsi; and 10 storey/4.0 fsi categories. These types occur across the three density and height categories, and are represented by both older and more contemporary buildings. Beyond the 10 storey/4.0 fsi level, this repeatability of appropriate building types breaks down.

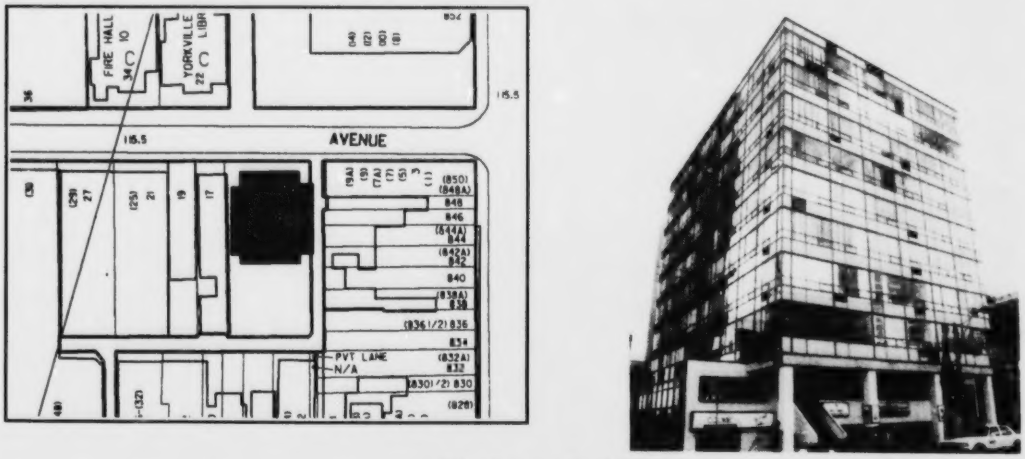
The qualitative analysis indicates that there are a number of building types which work within the defined height/density relationships established. The *perpendicular bar*, the *parallel slab* and the *block* or *pavilion* building types provide interesting examples of the sort of repeatable types that underpin an appropriate typology. In each of the above categories, there was a good range in built form and building type.


(3575)
114.5
30
34
20A
20
173

Perpendicular bar type building


HURON
PRINCE
455 M
465
94
483
88

Parallel slab type building


FIRE HALL
YORKVILLE LIBR
AVENUE
115.5
PVT LANE
N/A

Block type building

Our analysis also demonstrated that there were a significant number of "extreme" buildings which had heights that were completely disproportionate to their fsi. For instance, there were two examples of 22 storey buildings with an fsi of less than 2.0; two buildings with an fsi of less than 3.0 that were 25 storeys; and buildings at 27 and 29 storeys in the 4.0 fsi category. Such extreme examples clearly demonstrate the importance of having height limits with a predictable relationship to density in order to ensure some degree of confidence with regard to potential built form.

The threshold or upper limit for new as-of-right development in Toronto should be established at the point at which independently conceived, autonomous projects on separate parcels of land can no longer be repeated along a street or within a block while still producing an appropriate built form composition. The qualitative building analysis demonstrates that three appropriate, repeatable building types can be identified in the 6 storey/2 fsi; 8 storey/3 fsi; and 10 storey/4 fsi categories. If a building's height and density exceed these levels, it becomes essential to consider it in relation to its surrounding context. In these situations, a comprehensive urban design plan is necessary.

The City should:

iv) *Establish an Official Plan policy to indicate that building height, and not density, is the critical controlling variable.*

v) *Establish new zoning designations for property in mixed-use areas to regulate development through a combination of density in fsi terms and height in storeys. For example, a property would be zoned 8/3, representing a maximum height of 8 storeys and an fsi of 3.0 times coverage.*

vi) *Define storey height so that it is not abused.*

vii) *Redefine permitted density so that it includes most elements which contribute to building bulk, strictly limiting exclusions.*

viii) *Establish build-to lines or a maximum setback zone from the front property line applicable to the base as-of-right regulations on a street or neighbourhood basis.*

ix) *Establish minimum facing distances from the windows of habitable rooms.*

A Variety of Zoning Designations and Land Uses

As described in Chapter 3, the regulations should recognize that there are mixed-use districts which are primarily residential, as well as others which are primarily commercial. In this way, the built form and density controls may take account of the character of the street or the district, and a range of densities and related heights can be established to reflect the existing or desired character.

Mixed-Use Residential Areas

In mixed-use residential areas, which comprise the majority of the downtown, it is proposed that streets or districts be designated **6/2, 8/3 or 10/4** in the base as-of-right zoning. These suggested height/density relationships may, however, require modification after consideration of the work of the microclimate consultants, and further analysis by City staff.

It is likely that comprehensive planning of the downtown and delineation of the intended direction of its growth and development will warrant the allocation of additional development rights, above the **10/4** level, to certain districts or along particular streets. These additional development rights should be identified in the Official Plan on a street or area basis.

Policies in the Official Plan should establish clearly the process and criteria by which a rezoning will be awarded for the additional development rights. It is likely that such a review will include an assessment of community and recreation facilities in the area, other relevant land use planning matters, as well as the requirement that an urban design plan be prepared illustrating how the additional development rights are to be distributed. It is critical to maintain the objective of built form predictability when considering additional development rights. Therefore, it is necessary to seek a public consensus as to how the base as-of-right regulations will be modified. While the rezoning will deal with a variety of issues, key to the process should be the public discussion of an urban design plan.

Mixed-Use Office Areas

In mixed-use office areas, the amount of development rights would likely reflect the existing historic regulations. Thus, the Financial District would contain areas of 12.0 fsi while areas such as Bloor Street could range between 6.0 and 8.0 fsi. Varying densities and associated height limits could be accorded on a street-by-street or area-wide basis within these districts to reflect the nature and scale of existing or anticipated built form.

We have not undertaken sufficiently detailed studies to determine clear height limits which would relate to densities in the 6.0 to 12.0 fsi range. However, the principle of establishing appropriate height/density relationships should be adhered to in these mixed-use office areas of the downtown. The height limits in these mixed-use office areas, which are already largely characterized by high towers, are not considered as critical as in the residential districts. However, where there is no compelling reason to permit excessive height, development should still be kept as low as practicable, in the order of **20/8** and **30/12**, for example. It is likely, moreover, that developers will seek greater heights in these areas through the urban design plan process.

Defining Land Use

The regulations should allocate land uses according to the principles elaborated in Chapter 6. This means that land uses will be distributed within the height and density silhouette established in the base zoning (i.e. 8/3). Land uses would therefore be place-specific, defined in relation to sub-areas of the site or levels of a building within the context of the street or district.

Specifically, the zoning would delineate the locations on the site or within the building envelope where the land use needs to be defined. Flexibility of market choice should be left open where there is no need to define the use. Each combination of uses could be designated by a different symbol.

The allocation of land use in mixed-use office areas can follow the same principles. The maximum office component should be established by the number of storeys on which office uses would be permitted. These levels should be defined, taking into account that larger floor plates catering to offices on the lower floors will absorb significantly more density than residential use on the upper floors.

At the same time, the regulations should encourage a mix of residential with other land uses throughout all parts of the downtown. Residential development can be encouraged by creating development rights which can only be for residential use and by permitting residential use to displace commercial development rights if the developer so chooses. On those streets in mixed-use office areas where height is not of particular concern, additional encouragement could be given to residential use by increasing the height and even the density for residential use, on approval of an urban design plan.

The following are a few examples which illustrate in principle how the above proposals might be implemented.

Mixed-use Residential: Main Streets zoned 6/2

A certain depth of all properties would be defined for all permissible land uses (office, retail, institutional or residential) at all levels, with the exception of the grade level where residential would not be permitted. This would permit the range of uses in the building to vary from 5 storeys of housing over a grade level of retail on the one hand, to 6 storeys of office use on the other. If the site extends deeper than the established depth, so that it also faces on a second street, the balance of the site would receive a different (likely all residential) permission.

Mixed-use Residential: Residential Streets zoned 10/4

All properties would likely be defined to permit residential to the full height of 10 storeys. Depending upon the street, it may be desirable to also permit (but not necessarily require) retail at grade level and office use on the second and third levels. A building so designated could be entirely residential, or instead might have retail at grade, two storeys of offices and seven of residential.

Mixed-use Office: Financial District zoned 35/12

Grade level might be restricted to retail, while the next 2 storeys could include office and institutional uses as well as retail. From the fourth level upwards to the 20th storey, all uses could be permitted (office, retail, institutional or residential) with only residential use being confined to the top 15 storeys. The resulting building could have retail at grade level and 19 storeys of offices without a residential component. An alternative would be retail at grade level, 2 storeys of commercial (retail or office) above grade and then residential to 35 storeys. A fully mixed-use building would have retail at grade, offices to the 20th floor and 15 storeys of residential above.

The City should:

x) *Establish mixed-use residential areas in the Official Plan covering most of the downtown, in which a range of housing types, tenures and incomes is expected.*

xi) *Establish zoning designations of 6/2, 8/3 and 10/4 for the base zoning in mixed-use residential areas.*

xii) *Establish Official Plan policies which define the process, method of evaluation (including an urban design plan), and other issues to be considered, in rezoning to secure additional development rights which may be allocated in the Official Plan on a street or district basis, in recognition of the long term growth objectives of the City.*

xiii) *Establish mixed-use office areas in the Official Plan in which retail and residential uses are to be encouraged in conjunction with modern office buildings.*

xiv) *Create zoning designations equivalent to current density levels in the mixed-use office areas, with heights established based upon microclimate conditions, historic building height, and urban design considerations.*

xv) *Regulate land use on the basis of its location on the site, by defining the depth of use from a street, and/or on the basis of the intended built form, by building storey.*

xvi) *Consider setbacks at grade and above a certain number of storeys in the base regulations for mixed-use office areas, where high buildings are contemplated.*

Recreational Facilities

The conclusions which follow below are discussed in detail in Chapter 7. In mixed-use office areas, there should be no requirement for any form of recreation space to serve building residents.

In mixed-use residential areas, all buildings should be required to provide secure common open space for children's play or for quiet relaxation. A portion of this space should be contiguous and enclosed for inclement weather. This space may be at grade or on a podium deck subject to performance criteria. In addition, all buildings should include all-purpose space for meeting rooms, again subject to performance criteria in terms of location and size. This all-purpose space should be exempt from density, up to maximum limits.

Similarly, where recreational facilities are provided in a building at the developer's choice, these should also not be counted as part of the permissible density, up to maximum limits.

Balconies should not be required, but when provided in open balcony form, should not be counted as part of the permissible density, up to maximum limits.

The City should:

xvii) *Establish minimum sizes and performance criteria in the zoning for the design of required open space and adjacent enclosed space in mixed-use residential areas. The location of such space is to be restricted to grade level or a podium deck.*

xviii) *Establish minimum sizes and performance criteria in the zoning for the location and design of required common meeting space in mixed-use residential areas, which may be included free of density, up to maximum limits.*

xix) *Establish maximum standards and performance criteria in the zoning for open balconies which may be included free of density in mixed-use areas, up to maximum limits.*

xx) *Establish maximum standards in the zoning for shared recreational facilities within a residential development which may be included free of density in mixed-use areas, up to maximum limits.*

9.3. The Urban Design Plan

The base as-of-right height and density regulations described above would be implemented through the Zoning By-law. The intent of the base zoning is to ensure predictable built form outcomes, particularly in the public realm. These zoning provisions could, however, be amended for a site or a street where considered desirable. In such cases, it is critical to ensure that the proposed changes result in an improved built form which is publicly discussed and evaluated before being embodied in a rezoning. The mechanism of an urban design plan, prepared on a street or area-wide basis, is intended to be the vehicle by which such an objective is achieved.

In some districts, additional development potential may be recommended to achieve a clear public objective or to respond to the emerging structure of the downtown. Such additional development potential would be clearly defined in the Official Plan pending a rezoning. Critical to the review process should be an urban design plan, though other matters such as an evaluation of the need for parks, community and recreation facilities and other land use matters should also form part of the review process where necessary.

Urban design plans are new only in name in the Toronto planning scene. An urban design plan was prepared for the St. Lawrence neighbourhood in arriving at appropriate zoning. Similar plans were also prepared, or are being undertaken, for major areas of redevelopment such as Ataratiri, the Bathurst-Spadina Neighbourhood, etc. The process has been institutionalized in the planning process for the Railway Lands as Concept and Precinct Plans.

In the context of intensification and urban consolidation, the assessment of the physical impact of a proposed building requires a clearly articulated urban design plan or vision for the street and/or the district. Without such a plan, the measure for evaluation of built form is insufficient and ineffective. The proposed building form should be repeatable on adjacent sites in such a way as to create a coherent urban pattern on the street, on the block, and in the district. Such a vision should include the structure and character of public spaces and built form at the level of specific streets and blocks.

The urban design plan should form the basis for elaborating a vision for the existing areas of Toronto's downtown as well as the new areas. With a growing residential population in the downtown, the urban design plan would permit public discussion of the issue of *design and environment* and lead ultimately to defining appropriate building typologies for downtown districts.

The Creation of Urban Design Plans

Ideally, urban design plans should be prepared by the City for all streets and areas within the downtown in order to have in place the publicly debated "vision" to guide future development. It is anticipated that the urban design plan would lead to amendments to the base as-of-right zoning for an area in order to facilitate and encourage this vision.

Since the creation of urban design plans for the whole downtown is a significant undertaking, the City might consider assigning priorities for the preparation of plans in terms of areas where significant redevelopment appears imminent, or where an area has special characteristics to be preserved. In some cases, a developer may seek amendments to the base as-of-right regulations in an area which has not yet been addressed by the City in an urban design plan. In the absence of the City's "vision", the applicant should be allowed to initiate the process by preparing a plan for the area in which the site is located. This urban design plan would be subject to response by the City and be open to public debate and City approval.

In order to establish this "vision", the urban design plan should clearly elaborate the intended relationship between:

- buildings and their lots;
- buildings and open spaces;
- the vehicular and pedestrian circulation;
- relationships to surrounding properties on all sides; and
- appropriate land use allocation.

The City should:

xxi) *Prescribe in the Official Plan the aspects which should be covered in the preparation of an urban design plan. These would include three dimensional representation for an area or a street illustrating building massing, open spaces, vehicular and pedestrian circulation and land use allocation.*

xxii) *Establish in the Official Plan that the urban design plan for an area or a street would have regard for the following:*

- *the regulation of microclimate conditions;*

- *the relationship to existing and anticipated built form composition along the street and in the district;*

- *the relationship between the building and the public realm (the sidewalk and the street);*

- *that built form intended for one site is repeatable on adjacent sites;*

- *the integration of existing structures of historic, contextual and architectural importance;*

- *the application of setbacks and build-to lines;*

- *securing landscaped open space through regulations such as setbacks in the context of the site, the street and the district;*

- *limiting streetwalls in height (with possible setbacks above a certain height in relation to the width of the street) and/or in continuity;*

- *prohibiting vehicular driveways, private roads, drop-offs and short-term parking at grade in the downtown; and*

- *requiring that the main entrances to residential buildings be located on the most major street frontage.*

xxiii) Establish a requirement in the Official Plan that the allocation of any additional height or density, for whatever purpose, be subject to the approval of an urban design plan for the area or street. Specifically, height and density may be increased:

- *in recognition of the changing structure of the city as defined in the Official Plan, in areas where additional height or density is anticipated and considered appropriate;*

- *to facilitate the creation of public parks in the downtown following an urban design plan review of both the proposed park and the location to which the increase is to be applied; and*

- *for the creation of major public community facilities in the downtown following an assessment of the need for the facility.*

xxiv) Establish an Official Plan policy which determines that additional height and density allocated for public facilities should be used on the site on which the public facility is to be located. Transfers of development rights should only be permitted where this is not possible due to the preservation of historical buildings or the creation of a park.

xxv) Establish in the Official Plan absolute maximum increases in height and density which may be allocated for any purpose.

xxvi) Establish in the zoning and in any agreements for additional height and density that building owners be required to fix a permanent sign(s) describing the public and private amenities which are provided in the building.

9.4. Is it Too Late to Change Directions?

There is a wide variety of built form existing in Toronto's downtown of different quality, time period and scale. It presents an uneven, "layered" context for new regulations. This raises the question of whether it is too late to change direction now and insert a set of regulations which will try to achieve a new, more understandable, predictable and ordered direction for development. We are aware that the existence of a high building adjacent to a redevelopment site usually creates a precedent.

How then does one ignore the precedents of the past on a city-wide basis? Good urban design often requires that one not mindlessly repeat past errors side-by-side. There is a need for compatibility and variation in combining building types.

It is precisely because the downtown is rapidly becoming a city of towers that we propose a change in direction. To have made a past error should not be used to compound the problem and justify an equal error in the future. It is better to err on the conservative side where we are relatively sure that the consequences for the public realm will be tolerable.

It is the purpose of the urban design plan specifically to address the question of appropriate built form and relationship to what already exists. This does not necessarily mean low; it means appropriate in terms of that location within the city. For example, we are convinced that there should continue to be more high-rise buildings in various locations in the downtown. However, the identification of these locations and the determination of how best to integrate the built form into the urban fabric must be a public decision based on the right information. The often maligned Bay Street is an appropriate location for high-rise tower buildings. However, an urban design plan process prior to development might have ensured that appropriate public open spaces, landscaping, and microclimatic conditions were provided to create a more "livable" segment of city. The regulations and process we are proposing through the recommendations in this report would ensure appropriate treatment in the future for similar streets.

9.5. The Next Steps

A comprehensive amendment to the regulations which govern development in downtown Toronto is a massive undertaking. Before such policies can be recommended to City Council and be opened for public discussion, they must be carefully reviewed by City officials, likely from a number of departments. It is critical to bring to bear the considerable experience of officials gained through the day to day implementation of such regulations.

Many of the specific policies recommended in this review seek to achieve certain outcomes which are spelled out in this report. It is the principles which are important at this stage. Many of the details or the specific heights, densities, and sizes which are recommended require further investigation. These specific and critical regulations should be reviewed and possibly amended based upon the experience and studies undertaken by the appropriate City officials before fixing specific limits within the by-laws.

Finally, all of the recommendations in this report will need to be integrated with the other streams of study and review being undertaken either by City staff or outside consultants for the 1991 Plan.

ILLUSTRATION CREDITS

a) From *Zoning Handbook, A Guide to New York City's Zoning Resolution*, Department of City Planning, New York City, July 1990, pp. 136-137

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c) From *Text Amendment Application No. 123*, Boston Redevelopment Authority, September 25, 1987

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21

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VOLUME 2: APPENDICES

Cityplan '91

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21

CONSULTANT'S STUDY:
LIVING DOWNTOWN IN TORONTO
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LIVING DOWNTOWN IN TORONTO

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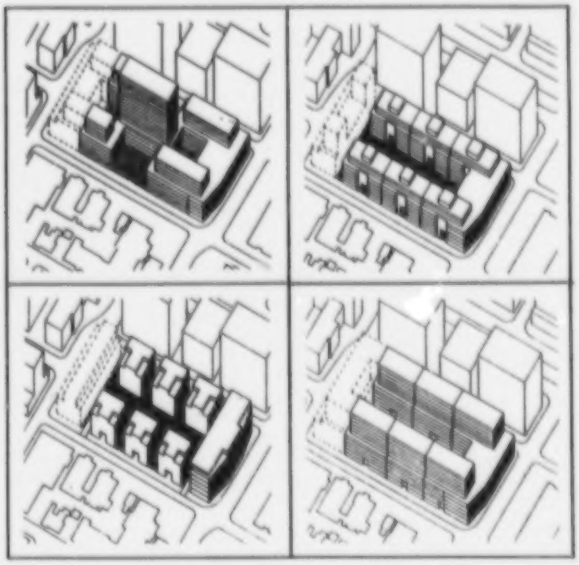

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December 1990

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THE APPENDICES

The research undertaken for the Living Downtown study has been written up as a series of papers which are included in this Appendix to the Living Downtown study.

It should be noted that these papers have not been incorporated literally into the final report. Each appendix represents a separate and distinct study undertaken by a member or members of the Living Downtown team. The findings served as background information and, in most cases, guided our thought process in arriving at the conclusions of the final report.

The final report represents our interpretation and final resolution of all the issues taken together and takes precedence over any information presented in the appendices.

The appendices include the following papers:

1. *Problem Statement* *p. 1*
2. *Density and Livability* *p. 5*
3. *Case Study Cities* *p. 11*
4. *Case Study Buildings* *p. 49*
5. *Density/Height Relationships* *p. 149*

APPENDIX I

APPENDIX I

PROBLEM STATEMENT

Critical to our approach was the preparation of a comprehensive statement of the problem at an early stage in the study. This problem statement was based upon our initial review of the work undertaken by the City to date, discussion with City staff and our own experience. The statement was modified during the course of the study following the initial research and meetings with key agents in housing production downtown. The problem statement became a series of hypotheses, the testing of which directed much of the research undertaken during the course of the study.

The third and final draft of the Problem Statement is included in this appendix. It played a key role in guiding our thought process and, consequently, in formulating our recommendations for alternatives to the existing regulatory system.

1. Should the regulations continue to encourage housing and mixed-use development in the Central Area?

1.1 The City's policy of encouraging residential development throughout the Central Area is both appropriate and desirable. Housing downtown serves a number of purposes. It allows people to live in close proximity to work and other activities. It ensures that the City remain vital, active and safe at all times of the day and night. It reduces the number of trips made on various transportation systems. It offers an appropriate location for a certain style of urban living usually associated with high population concentrations, active street life and a *predominance* of people without children.

1.2 The regulations should encourage a mix of land uses throughout the Central Area, with some neighbourhoods which are primarily residential in character as well as others which are primarily mixed-use in character.

2. Should the regulations provide for the development of residential buildings at a range of different intensities dependent on location within the City?

2.1 Given the extent of the City's Central Area and the quite different neighbourhood conditions, there should be a variety of overall intensities as well as differences in the proportion of uses, dependent on the area or the street onto which a building fronts.

2.2 The regulations should account for the considerable variation in property size and ownership which exists within the Central Area. Redevelopment of both the small property and the large comprehensive development should be facilitated. In certain areas or locations incentives could be provided to encourage large scale comprehensive development through coordinated development or property acquisition. In other areas the incentives should encourage redevelopment at the small property scale.

3. *Should the regulations ensure that the residential development that results forms an appropriate part of the City in relation to buildings immediately adjacent on all sides, the surrounding streets and the neighbourhood within which the building will be located?*

3.1 The regulations should be able to ensure that new structures will be compatible with surrounding existing and anticipated development, streets and open spaces. This means clear and unambiguous regulation of land use, bulk, scale and location on the property which offers a long term vision of how that local area is intended to evolve.

3.2 Environmental conditions such as sunlight penetration, wind conditions and noise must be accounted for in the regulations to ensure appropriate relations with the surrounding city context.

3.3 Standards which have implications for the surrounding area should be regulated. These include matters such as land use, density, bulk, parking, private shared recreation space which is open or enclosed, publicly accessible recreation space open or enclosed. The standards have neighbourhood implications and therefore cannot be left to market forces to determine.

3.4 Community services and recreation facilities which tend to be large scale, cater to large groups of people and are expensive, such as parks and major recreation facilities (swimming pools, sporting facilities and libraries) are generally provided by the City in residential neighbourhoods. These are equally a necessity in the Central Area and must be provided by the City to meet the needs of residents in the Central Area. Such facilities should not be required in buildings under the regulations, however, their provision should not be penalized where they are provided, up to certain limits.

3.5 As population levels in the downtown increase and as the potential for new residential amenities is limited by high land costs, each development of sufficient size in certain neighbourhoods should be required to provide minor amenities for public use. Such minor amenities might include open space at grade or accessible above grade, enhanced landscaped setbacks from the street, quiet recreation space to the rear or side, and at grade enclosed areas within the structure for meetings, parties and classes. In other neighbourhoods of the downtown, such requirements may not be found to be necessary. Thus, amenity requirements should be provided for in the regulations and be variable by area.

3.6 Minimum parking requirements in the downtown should be reduced to the levels established for social housing to discourage the use of cars.

4. *Should the regulations ensure that the residential development that results provides for adequate accommodation for the residents?*

4.1 The minimum standards contained in the Ontario Building Code will ensure that all new housing will be adequate from the point of view of safety and health.

4.2 It is only necessary to establish standards in the regulatory system which go beyond the minimum standards established for reasons of health and safety as set out in the Ontario Building Code where these have implications for surrounding properties and the neighbourhood at large. Thus matters such as minimum unit sizes, private recreation space, numbers of bedrooms, storage, etc., should not be further regulated. The private market will be the determinant for setting such additional standards.

4.3 Personal recreation space should not be regulated. Balconies should be considered as an amenity and a signal of residential use within the city. In this way they should be permitted in open balcony form without penalty.

5. *Should the regulations ensure that new development will meet a series of social goals such as:*

- *ensure that a mix of unit sizes is created;*
- *ensure that a mix of income groups is served;*
- *ensure that a diversity of residential types are accommodated;*
- *ensure that a variety of tenures are made available;*
- *ensure that a proportion of assisted housing is created?*

5.1 It is not desirable to intervene in the market process for the supply of housing by requiring a certain mix of unit sizes through regulations. The market will cater to demand and thus to the need for accommodation. Any attempt to control the market process is unlikely to have the desired result. The regulations should be flexible enough to allow the market to respond to demand and to ensure that there is no penalty in serving any spectrum of the market. Ideally changes to unit numbers and sizes should be permitted even after construction.

5.2 The regulations are intended to encourage the production of appropriate housing for a certain location, and therefore they should not be a means of creating socially assisted housing through a trade-off for additional development potential or different standards. Additional development potential and different standards in return for social housing may stigmatize that form of housing and create a fundamental breakdown in the rationale for the appropriate level of development awarded a particular property in the first instance.

5.3 There should be as little as possible to distinguish between income status of housing in terms of the land market or the development's place in the city. Even though social housing is more likely to cater to children and to lower income households who cannot afford to seek alternate forms of recreation or escape from their homes, additional standards should be left to funding agencies or the developers of that form of housing.

5.4 Where concentrations of social housing occur within the Central Area as a result of the encouragement of such housing by the City, and where such housing is intended to cater to children, major community services and recreation facilities catering to the needs of children must be provided by the City, as is found in all residential neighbourhoods in the City.

5.5 The primary instrument for creating a range of housing types will come from the public and non-profit sectors. The City, through its social housing program (Cityhome), Metropolitan Toronto and private non-profit developers carefully determine their target market and provide units that are appropriate for it, in much the same way as developers do for their markets.

Alternatively ...

5.6 Any mechanism to achieve social housing through the regulations should apply to all properties. Regulations could well require that, subject to a defined minimum size of development, a certain proportion of new residential development be reserved for affordable housing catering to specific household groups such as families, seniors or singles. In this way the supply of affordable housing is assured and will keep pace with the supply of other forms of housing. The integration of affordable housing within the rest of the housing stock will ensure a mix of incomes throughout the City rather than the segmentation of lower income households in certain areas or buildings.

6. Should the regulations offer a clear understanding of the future for an area in terms of built form and household composition?

6.1 The regulations should be clear, understandable and simple to apply. In this way their land use and built form implications can be understood by all those affected. Debate around amendments on a site specific basis can then be more informed as to implications.

6.2 The regulations should be used as only one input into the planning process for hard and soft services in a neighbourhood. Present and past trends, as determined through monitoring, market forces and government programs, will have a greater bearing on what is built than the regulatory system which deals with all property irrespective of ownership intentions or market forces.

APPENDIX II

APPENDIX II

DENSITY AND LIVABILITY

Introduction

High density residential living now represents a very common way of urban life. However, some would argue that high density living is acceptable up to only a certain point, and that beyond such point, social and/or psychological adversities may result. Such a contention must be examined in a study such as the one at hand, given the fundamental importance of ensuring that Toronto's downtown residential neighbourhoods are "livable", and continue to be so over time.

As William Michelson, a widely respected, Toronto-based environmental sociologist has said,

> livability for housing areas is a descriptive and suggestive concept usually associated with the quality of human settlements. It conveys a broad range of values, some of which are quantifiable, some of which are not, but both are equally important.
>
> In discussing livability in relation to technical and administrative issues, it is often associated with density and other measures of how many people can enjoy living in a specific and limited urban space. *Livability is both a goal for building and improving urban communities, and a measure of their respective success* [emphasis added] (Michelson, 1984, p. iii).

In recent decades high-rise, high-density living has been accused of many things. For example, many fear that it leads to increased crime and delinquency; isolates people in depersonalized living spaces, thereby causing loneliness and anxiety; and lowers resident interest and participation in community affairs.

On the positive side high-rise has been credited with the benefit of providing accommodation for more people, at locations enjoying greater centrality of facilities and/or environmental amenity, and with offering a low-maintenance, relatively low-cost housing alternative (Young, 1976).

Permitted building bulk or density is in large part a question of social norms. In fact, what is considered to be acceptable urban living varies in different societies. Hence densities range considerably in countries and cities across the world. For example, average "inner area" population densities have been found to be 24 persons per hectare (pph) in Australian cities[1]; 45 pph in American cities; 91 pph in European cities; and 464 pph in Asian cities (Newman and Kenworthy, 1989). According to these statistics, Asian cities are almost 20 times as dense as American cities, yet it is generally believed that high density is a culturally acceptable form of living in cities such as Hong Kong.

In this appendix, we provide a brief review of the available literature pertaining to the relationship between density and livability, in an effort to demonstrate that a finite and identifiable density threshold has not in fact been established, and that density itself may not be the most important contributor to livability.

---

[1] Newman and Kenworthy define "inner area" as the comparatively compact, generally pre-World War II districts of a given city. It is important to note that their pph density calculations are taken over a land base which includes all open space.

It should be noted that most of the research conducted into potential relationships between density and livability was carried out in the mid-1960s to early 1970s, when high-rise living first began to become common. This body of research is comprehensively reviewed in a 1975 Canadian discussion paper by Homenuck, Morgenstern and Keeble and in a similar Australian review by Young published in 1976, and is referenced by Michelson in the proceedings of a seminar he chaired on density and livability at the University of British Columbia in 1984. There has apparently been no substantive research conducted in the field since the early 1970s.

The major points to be made from the existing research are outlined briefly in the following sections.

Summary of the Literature

The main conclusion to be drawn from the body of social and psychological research dealing with the potential relationship between density and livability is that the results are inconclusive. In fact, "the only point of agreement amongst writers is that there is insufficient evidence in this field and that more work needs to be done" (Young, p. 23). Experts in the field also agree that the main reason that the research is inconclusive relates to the fact that it is fraught with definitional and other methodological problems.

Definitional Problems in the Research

Most studies that have attempted to identify a relationship between density and livability have taken social and/or psychological health to be an indicator for livability. Homenuck notes that a major difficulty with existing studies on the effects of density relates to inconsistencies in the ways in which the concepts of high density and psychological and/or social pathology are defined. Variable measures of these concepts do not allow comparisons of study results, and therefore make it impossible to reach generalizable conclusions.

One of the most contentious issues relating to high-rise living is the extent to which it affects the physical and emotional health of its residents. Homenuck notes that part of the difficulty in interpreting the available data lies in the very different ways in which researchers define and measure health. Specifically, what are the signs of social and/or psychological "health"? And if such signs can be identified, how can they be consistently and dependably measured, so as to allow comparison of study results?

In addition, the research suffers from a lack of consistent definition of high density. Specifically, is high density equivalent to 3.0 times coverage? or 8.0 times? 175 dwelling units per hectare? or 400? and so on. In fact, most studies do not even identify the density of the buildings or areas researched. Those that do identify densities generally fail to distinguish between net and gross calculations.

Furthermore, most of these studies do not clearly differentiate between density and crowding. Homenuck et al. define density as "a physical condition defined by spatial parameters", and crowding as "the personal perception of spatial restriction" (Homenuck et al., p. 3). In addition, Michelson puts forth a measure of "internal" or physical crowding, involving the number of persons within a given dwelling. As a result, while a few studies may appear to have identified signs of social or psychological malaise, it is often not clear whether such "symptoms" are truly the result of density, or whether they are in fact the result of perceived or physical crowding.

Methodological Problems in the Research

With respect to the possible relationship between density and livability, there is a multiplicity of factors that may have an impact on livability, and density is likely only one of these. Specifically, "any research into a behavioral problem of this complexity must carefully account for a wide range of dependent variables. It is extremely difficult to control all dependent variables, and any two variable analysis is of only very limited usefulness" (Homenuck et al., p. 4). In fact, most researchers conclude that "after reviewing the available literature, ... the negative social effects commonly attributed to high density are in fact more likely to result from high density conditions combined with other factors, such as poverty or shortage of resources" (Homenuck, p. 2).

The most cogent example of this problem relates to the fact that most of the research conducted to date has been done on public sector housing. Young notes that application of the findings of these studies to market housing contexts must be done with great caution, as residents of public housing are generally not living there by choice, and have severely constrained access to amenities and services as a result of their highly constrained financial circumstances.

Homenuck et al. in fact sum up the issues with the methodological shortcomings of this body of research nicely in the following excerpt

> no firm conclusions can be drawn from the studies relating density, crowding and social pathology.
>
> ...Many such studies look at only a few variables (often only two) and then reach solutions to a problem as complex as the relationship between man and his environment. Such an approach to a complex multivariate problem is not very credible (p. 14).

Other factors that play an important role in determining the livability of residential neighbourhoods likely include such things as: design characteristics of particular buildings and/or neighbourhoods; degree of control over one's choice of housing environment, and the management of that environment; cultural factors; socio-economic variables; and availability and accessibility of community and/or private resources. A city's transportation patterns have also been found to impact significantly on livability.

Design

Some have argued that high-density residential environments lead to increased crime and delinquency. It is however entirely likely that building, site, and neighbourhood design characteristics have as much of an impact on criminal activity as does the number of people located within a building or area. Furthermore, it is easily documented that good design plays a very important role in perceived density. Two different buildings with an fsi of 3.0 can cause completely different density perceptions as a result of their design. Design relationships between buildings and in relation to open spaces are also very important moderators of physical density.

Choice

The ability to make housing choices would seem to have a critical impact on how one feels about and reacts to one's residence. It would seem that the possibility exists that constrained choice would lead to negative reactions toward one's housing environment, and that such a situation would be worse for those whose housing choices are constrained as a result of restricted household income. As an example, Toronto tenant groups often argue that they lack control over their housing environment under the current landlord-tenant and rent-control systems, and that this causes them great stress and frustration.

Culture

Culture would appear to have an impact on one's reaction to a given housing situation as well. Studies have been done on housing in Hong Kong, where densities are exceptionally high. Indications are that Hong Kong residents find the density of their residential environments to be acceptable. North Americans on the other hand have demonstrated their penchant for low density, as illustrated by their many sprawling residential neighbourhoods.

Socio-economic Status

Socio-economic variables surely also impact on the density-livability relationship. Social reactions to high-density change with the times. For instance, it is currently very fashionable to live in certain very dense locations (i.e. Bay Street, and parts of Harbourfront). St. James Town was also once a highly desirable place to live. Economic factors, and in particular financial situations, also undoubtedly impact on the livability of high density. Specifically, it can be said that "even in less than inspiring environments, the rich have shown a continuing ability to purchase adaptability" (Michelson, p. 16).

Access to Community Resources

Many studies have established that the accessibility of community facilities and services is an important determinant of residential satisfaction. When Michelson was asked if there is "a comfortable range of density beyond which you cannot go", he replied that he could not give "any meaningful, standard number, [and that] those who offer them disagree with each other" (1984, p.21).

Michelson instead suggests turning the question around, asking what degree of facilities and services a given population group will need (i.e. shopping, recreation, etcetera). Then, based on the level of amenities which exists, or that can be provided, determine a comfortable density level. One should start from "a series of amenities that potentially promote livability, and ask how many people can cluster within realistic distances of those which are feasible to build" (Michelson, 1984, p. 21). Michelson argues that this provides a "practical, operational way of determining densities rather than one which is arbitrary and [attempts to be] universal" (1984, p. 21).

It is important to remember that housing is really a "bundle of amenities", and that alternative housing forms combine and trade-off these amenities in different ways. For instance, housing cost and accessibility are generally polar variables, meaning that the more you have of one, the less you have of the other. As such, the role of community planning is to ensure that the range of alternative housing forms are complemented by the combination of local amenities needed to make them livable. Examples of such amenities include community facilities, services, and institutions; open spaces; and cultural facilities.

It must be noted that there are indications that *high-rise* living is problematic for children and their families, because it constrains play activities. Parents cannot allow their young children to play out of doors without direct supervision, hence childrens' opportunities to do so are limited by the pressures of parents' many time constraints and commitments.

Furthermore, in many downtown neighbourhoods, there are very few places for even supervised play. Even indoor play is constrained as a result of the need to control noise in situations where dwellings have abutting walls, floors, and ceilings. Meeting the needs of children living in Toronto's downtown neighbourhoods will thus require special attention.

Transportation Patterns

There is a body of research which links density and livability to the impact of a city's transportation patterns. This body of research defines a range of population densities that result in three different types of cities, namely: "automobile cities"; "public transport cities"; and "walking cities". In 1989, Newman and Kenworthy found that cities with urban densities between 10 and 30 pph were predominantly reliant upon the automobile for transportation; cities with between 30 and 130 pph most commonly used public transit; and cities with between 140 and 400 pph were most reliant upon walking. With increasing densities, more people use transit, cycle and walk. As a case in point, Toronto's inner area was found to have a density of 54 pph.

The basic premise underlying this research is that the quality of urban environments improves as densities increase because there is a decreasing need to make accommodations for the automobile. Less dependence on the automobile means lower pollution, congestion, noise, and parking.

In fact, David Nowlan, a Toronto-based economics professor, has argued that the key to maintaining "manageable" congestion levels in Toronto's downtown is to continue to encourage very significant levels of new residential development. Limitations and caps on the level of new commercial development have proven to be much less effective in this regard. Nowlan has, in fact, demonstrated that there is a direct relationship between the increasing number of people living downtown, and what is in real terms, a decreasing level (relative to the increasing total amount of commercial space) of traffic passing through the downtown in rush hour. This is because of "the enormous attractiveness of living in the central area for those who work there" (1989, p. 40). Nowlan goes on to state that, assuming a total of eight million square metres of commercial floor space by the year 2011, the City would have to achieve a production rate of 4,000 new residential units per year (between now and 2011) in order to restrict congestion in the downtown to its current level. Given that traffic congestion is a major detriment to livability, such a target would be an important objective to pursue.

Conclusion

The body of literature which attempts to establish causal relations between high density and social and psychological malaise is indeterminate and methodologically problematic. In essence

> the blunt fact is that the physical environment is rarely deterministic, that is, it rarely determines a given social or psychological condition. It is truer to say that social and physical environments interact, each modifying the other.
>
> To say that high-rise living produces social problems assumes too direct and important an effect of a physical system. This should be replaced with one that asks why, how, how much, and with what effects this causal influence does occur (Young, p.31).

In any event, the question to be asked is the extent to which good community planning can maintain a high quality of residential life, under circumstances of increasing density. In this regard, it has been suggested that it is not necessary to wait until research can finally tell us when and to whom high-rise living is appropriate, as long as a genuine range of housing options are open to residents (Young), and the various housing forms are backed up by the necessary "bundle of amenities". In this context, residents will be able to make their own decisions and trade-offs.

APPENDIX III

APPENDIX III

CASE STUDY CITIES

In order to review the City of Toronto's method of regulating mixed commercial-residential development in the downtown, a primary research task was to understand how other large North American cities address the same issues. Therefore, a review of planning controls used for regulating downtown development in several North American cities was undertaken.

Through discussion with City staff, six cities were selected:

- Boston
- Calgary
- Chicago
- New York
- San Francisco
- Vancouver

The first step in the research was to approach key City officials in order to establish initial contacts. Documentation on each of the city's regulatory system (zoning by-laws, official plans, planned unit developments) was then acquired and reviewed. Finally, follow-up discussions with City officials and other key actors in the development industry were undertaken to verify and clarify interpretations of the documentation. This analysis was a primary instrument in obtaining insight on different means of addressing the issue of mixed commercial and residential development in the downtown and guided the thought process which led to the recommendations of the final report.

There follows a general overview of each case study city's regulations. We review each city's approach to residential development with respect to the issues of mixed-use, density requirements, bonusing, amenity space, social housing, urban design, environmental requirements and parking.

1. BOSTON

1.1 General Description

The City of Boston uses its zoning code as a means of long range planning. It does not have an equivalent for the Official Plan, although there have been attempts through the years to produce a City plan. The zoning code divides the City into use districts. It uses a pyramidal zoning system in which the single family residential district is the most restrictive and permits few other uses. Each successive district includes the permitted uses of the previous district.

1.2 Districts

Boston's Apartment (H) and Business (B) districts are the most applicable to the study at hand. The Apartment District permits most residential uses including multi-family housing, institutional uses, recreational uses and a very limited number of office commercial uses. In addition to these uses, the Business districts permit most retail businesses and services and office commercial uses. This means that residential uses are allowed as-of-right in business zones. The zones are identified on the zoning map by either an H, L (Local Business) or B (General Business).

Mixed Uses

The business zones in Boston are effectively the mixed-use zones of the city. There are no designations which are specifically called "Mixed-Use". While the Code does not directly discuss the mixing of uses within a building, except in Urban Renewal Areas, this is permitted according to Boston Redevelopment Authority (BRA) planners.

In general, developers in Boston have not been interested in providing mixed-use buildings, except for the provision of ground floor retail uses in a residential or office commercial building, or in the case of large sites, the mixing of single use buildings across a site (the Prudential Center is an example). This results from the fact that building residential space leads to the sacrifice of more profitable commercial development rights. Furthermore, the Building Code limits the ability to mix to some extent, in that the requirements for commercial uses vary considerably from the requirements for residential uses. However, publicly funded developments have created some mixed-use buildings for the purpose of creating internal subsidies for low-cost housing.

In the high density residential zones falling within Urban Renewal Subdistricts (areas dating from the mid-1960s and covering much of the downtown), mixed-use buildings are directly permitted by the zoning code. However, businesses located within such a building are expected to be for the convenience of residents only.

In all other high density residential zones, however, most business uses are not permitted. The exception is that accessory uses to a main use are permitted. This allows the provision of such uses as a newsstand or barbershop.

There are no formulas that control mix. Control can be achieved through Development Review requirements, to some extent, but would probably be due to concerns over traffic generation rather than the desire to limit the use itself. In fact, such controls have never needed to be exercised.

1.3 Density Requirements

The City of Boston uses a floor space index system similar to that used in Toronto for residential uses outside of the Central Core and all other uses. It is called the floor area ratio (FAR), and determines the magnitude of permitted development by taking the ratio of the total permitted gross floor area of development and the area of the lot. The gross floor area of a development is also defined in a similar way as in Toronto, except that it includes measurement of "fully enclosed porches and the like".

An FAR is specified for each area on the zoning map as a suffix to the use code. The maximum permitted FAR in the H (apartment) zone is FAR = 5 and the maximum permitted FAR in a business zone is FAR = 10. These FARs may be increased under special circumstances, described later.

1.4 Amenity Space

Open Space Requirements and Recreational Space Requirements

Most residential zones in the Boston Zoning Code have usable open space requirements and all residences within business zones have usable open space requirements. In the latter case, the requirements are the same as for the nearest residential zone or the least restrictive residential zone.

The requirement of high density development is 75 square feet (7 square metres) per unit, however there is no distinction between private and common space. Balconies do not count as open space. Open space can be provided wherever the developer wishes to put it, including indoors. If it is provided outdoors, they are encouraged to put it where it will not be in shade for most of the day. However, open outdoor space typically cannot be provided on-site in downtown locations since development sites are usually smaller than in Toronto, so requirements are generally waived. This raises the question of how open space is created in downtown Boston. Planners suggest that open space in the form of plazas is most likely to result from the realignment of roads rather than redevelopment. However, they will use the Development Review process to negotiate the provision of public easements through buildings (e.g., 75 and 101 Federal Street). Other public walkways are required for most redevelopment projects directly fronting on the Boston harbour.

With the BRA, the emphasis is on determining where open space is appropriate in a neighbourhood, rather than requiring that each developer provide some open space. Some developers with a strong interest in downtown Boston have banded together to rehabilitate and maintain open spaces. Friends of Post Office Square is one such group, which has supported a design competition, selected and developed a small parkette. In other cases, the Parks Department has got developers to provide funds for redevelopment through Development Review.

There are no specific requirements for recreational space, although such space is often provided in order to meet the above-described open space requirement. It is possible to do this because, as noted above, the open space requirement can be met through the provision of indoor "open" space.

1.5 Social Housing

Boston achieves social housing production through a tool called Development Impact Projects. Non-residential developments or redevelopments in the downtown that are over 100,000 square feet (9,290 square metres) in size, cause a reduction in the stock of low and moderate income housing, and require a zone change, variance, conditional use permit or variance are defined as "development impact projects". Such proposals are subject to exactions (i.e. levies), some of which are put into a Neighbourhood Housing Trust. Alternatively, housing units may be built on the site or elsewhere at a cost at least equal to the contribution that would have been made to the Trust.

1.6 Urban Design and Environmental Requirements

Developments or rehabilitated buildings that are over a certain minimum size (50,000 square feet (4,645 square metres) for new developments and 100,000 square feet (9,290 square metres) for additions or enlargements) must undergo Development Review. Development Review is very much like the environmental assessment process that is carried on at the provincial level in Ontario.

It may cover matters related to urban design, environmental protection, transportation, historic resources and infrastructure. An Adequacy Determination is made on the basis of information submitted in a Project Impact Report, and once it and other approvals are received, the project may proceed.

The Boston Redevelopment Authority may request information concerning architectural compatibility and consistency with any design guidelines applying in a particular district. The guidelines may include standards for building massing, proportions, setbacks, materials, fenestration, ground level treatment, and other architectural matters.

Design guidelines for areas such as Boylston Street in the Back Bay, tend to support existing streetwalls, streetwall rhythm, cornice lines, etc. Setbacks above the first cornice line tend to be governed by shadow and wind impacts. BRA planners indicate that the streetwall and cornice height limits define an acceptable density, sometimes superseding densities otherwise provided by the Code.

The environmental matters which may be included in the review include, among other things, wind, shadow, daylight and solar glare impacts.

Height Limits

In most use districts, a maximum height of buildings is specified. Like the FAR, it is specified on the zoning map as a suffix to the use code, as follows:

e.g., an apartment district (H)

H - 3 - 65
Use/FAR/Height

The height limits bear a relation to historical heights permitted in the City and so tend to be quite low by Toronto standards. The limit in the general business zones that comprise much of downtown is 90 and 120 feet (27 and 37 metres), although there are a few zones, particularly B - 8 and B - 10, that have no height limits at all on the underlying zone. Heights may be increased under special circumstances, described later.

Setbacks

All residential zones in the City of Boston have front, side and rear yard setbacks. The apartment zones also have a required setback of the parapet from the lot line. Thus, setbacks vary by zone rather than use.

All residential uses in local or general business zones have front, side and rear yard setbacks, and in most zones there is also a requirement for the setback of the parapet from the lot line. Front, side and rear yard setbacks tend to be directly tied to the requirements of the nearest or the least restricted residential zone.

No setback is required in any case below either 25 feet (8 metres) in height or the combined height of a first and second storey above grade, whichever is lower. Special setback requirements apply in certain areas, such as historic Back Bay.

Maximum lot coverage limitations apply in the business districts.

Variations to setback and coverage requirements may occur through Design Review and would tend to favour setbacks and coverages which support the existing streetwall or development characteristics of an area, regardless of the setbacks required for a zone. Changing a setback for a particular development is seen as a minor variance, with the emphasis on establishing an appropriate streetwall rather than rigidly maintaining Code requirements.

1.7 Special Zoning Tools

Overlay Zoning

In recent years, the Director of the BRA has come to the conclusion that the underlying zoning in downtown Boston is outdated and in need of revision. The Downtown Interim Planning Overlay District (Downtown IPOD) is an additional layer of zoning which frequently supersedes the requirements of the underlying zoning. This overlay zoning has been put in place until final zoning can be enacted to replace the underlying zoning. It is designed to ensure that the development that occurs while this process is going on is in conformity with the new planning intensions enunciated by the Boston Redevelopment Authority. The overlay district applies to approximately a dozen areas in the downtown, for which six areas now have new permanent zoning. The new zoning is very much in conformity with the IPOD zoning.

The IPOD split the downtown into preservation districts, restricted growth districts, medium growth districts, and economic growth districts, each having its own range of as-of-right FAR and height limitations. In addition, enhanced FARs and heights are granted by a Board of Appeal in certain of these districts, subject to a test that ensures that benefits will outweigh costs to the City. This is basically a bonus system based on judgement calls by the BRA as to benefits. There is no bonus formula. Again, detailed development review is required, including review of height and massing, architectural compatibility, public benefits and other matters.

One of the districts that the IPOD created is the Midtown Cultural District, which is located immediately adjacent to the Financial District and in fact includes some of it. Recently, new permanent zoning has been adopted for the Midtown Cultural District which supersedes the provisions of the IPOD zoning. This zoning provides an interesting example of the direction that Boston is going through with its zoning review.

This district probably has the tightest controls over design, height and density because it represents the City's highest priority for planning and development at the present time. The goal of the zoning includes the promotion of mixed use development and the attainment of affordable housing in the downtown area. Thus the uses permitted include residential, office, entertainment, community facilities, service and retail, and institutional uses, in any combination.

The Zoning Code sets out permitted densities and heights for the area as a whole and for a number of "protection areas". In a total development (including all uses within it) the maximum FAR = 8 and the permitted height is 125 feet (38 m). If the developer is willing to undergo Development Review, the FAR/height may be increased to 10/155 feet (10/47 m). These provisions do not apply in "protection areas, which have lower permitted densities and heights, with no exceptions allowed."

In all other areas, the density of a project may be increased by up to FAR = 2 for the provision of such facilities as ground-level retail, on-site daycare, space for community services, renovated theatres and parking facilities in addition to project requirements (Boston has a severe parking problem). In certain designated "housing priority areas", the FAR/height may be increased to 12/250 feet (12/76 m) by exception (like an amendment), provided that, among other things, 75 percent of the project is for residential uses, and the floor area above 155 feet (47 m) of height is entirely used for residential purposes.

In addition to the Development Review criteria that must be met for major projects downtown, the Midtown Cultural District zoning imposes additional environmental impact standards, including more detailed shadow and wind criteria, transportation access plans, and skyline plans.

Specific design guidelines apply for the area as a whole and for "protection areas" in particular. Within the area as a whole, the emphasis of the design guidelines is on maintaining streetwall continuity and historic streetwall heights. Skyplane setbacks are established for certain streets. For larger projects, a degree of streetwall transparency, including display windows, must be achieved. Within "protection areas", additional standards require that the scale, massing, proportion, window treatment, materials, colours and architectural detailing be compatible with the surrounding area. These guidelines are written directly into the Code and therefore adherence to their principles is required.

Planned Development Areas

The general sections of the Boston Zoning Code and some of the revised new sections of the Code, such as the Midtown Cultural District, permit the designation of Planned Development Areas.

Planned Development Areas (PDA) may be designated by the City of Boston through its Zoning Code or may be proposed by developers. In a Planned Development Area, development may be permitted that exceeds the as-of-right and enhanced density and height allowances. The site in question must be over one acre (0.4 hectares) in size and, depending on its size, the developer is required to produce a development or master plan. The process is generally more time consuming than the standard Development Review. In the Midtown Cultural District, for example, three PDAs have been designated for sites that are under-utilized. All three have old theatres on them which the BRA wishes to preserve. These areas are composed of consolidated lots on which a single coordinated development will be permitted. By virtue of this coordination, the BRA will permit additional density and height, within a range of FAR = 10 to 14, and a maximum height that varies by site, but does not exceed 400 feet (122 m). If this option is chosen, the PDA process must be followed and in addition, the Midtown Cultural District Zoning has public benefits which must be met. Among the public benefit criteria, one option which may be followed is the creation of affordable housing and another is the preservation of the theatres. The public benefits test is not a formula. The BRA makes a judgement call as to whether the benefits provided outweigh the public costs of the development.

Housing Priority Areas

Boston has a regulatory means of encouraging housing in certain areas of the downtown. Mixed-use is a policy objective of the City. Three Housing Priority Areas have been designated. The first applies to Chinatown, and requires that housing must be built in newly constructed or renovated projects over a certain minimum size (10,000 square feet or 929 square metres) and it must consist of at least 75 percent of the project floor area. In the two other housing priority areas, increased building densities of up to 2.0 times the area of the lot, are permitted provided that 75 percent of the project is for residential uses and the floor area above the height limit (155 feet or 47 metres) is used entirely for residential purposes. Despite these requirements and inducements, there has not been a great deal of recent residential development in the downtown core. During the last boom, an oversupply of condominium development was produced. Consequently, the market for residential units has bottomed out. Furthermore, there are few available sites left for development in the downtown. What is left is therefore generally too expensive to make residential development economically viable at this time. Thus, commercial development wins out.

1.8 Conclusion

Process Considerations and the Planning Reality in Boston

There are some fundamental differences between how planning is carried out in Boston versus Toronto, which have a bearing on the type of development that results. Both cities rely on negotiation to achieve certain public amenities. However, Boston's maximum size of development is capped in the by-law at the levels allowed for Planned Development Areas.

More important, however, may be the form of administration. The Boston Redevelopment Authority consists of a Board and Director appointed by the Mayor. The Director and staff conduct all negotiations, based on a particular agenda for development established by the Mayor. In a pro-development climate, there is the potential that any and all forms of development will be approved. However, the situation in Boston until recently has been a boom market coupled with a public desire to control growth. The result is that planners have been able to negotiate from a position of strength. While developers may appeal, they can only appeal to a City Board of Appeal that is also appointed by the Mayor. In order to develop in Boston, therefore, you must go by the City rules.

Some very fine developments have resulted, with the BRA maintaining a strong stance on matters related to bulk, height, architectural detailing and urban design. On the other hand, very little housing has been built in the downtown, despite the requirements of the housing priority areas, due to land costs and the resultant inability to produce housing at a price point that the market will bear.

Current downturns in the real estate market in Boston are beginning to necessitate a more flexible approach to developments on the part of the Boston Redevelopment Authority. Planners expect that, over the coming period, developers will make fewer concessions and that, if there is any expectation of development proceeding, planners must ask for less in their negotiations.

2. CALGARY

2.1 General Description

Residential development in Calgary is permitted within residential districts as well as the central business commercial district and the downtown business district, described below. Commercial uses are generally not permitted in residential districts. However, the business districts permit residential uses in conjunction with commercial uses. Building bulk is regulated in residential districts by density and height restrictions, in the central business commercial district (CM-1) by density restrictions with a height restriction in a designated area by the river, and in the downtown business district (CM-2) by density restrictions with no height restrictions. This new downtown district was established to attract very high density in certain areas of the downtown.

The City has far-reaching discretionary powers over development. Almost all practical uses are classified as discretionary uses in both residential and business districts, and thus require a permit by means of development review. There are no permitted uses in districts CM-1 and CM-2; in both cases, there is a list of discretionary uses which covers the whole range of residential and commercial uses.

The zoning by-law makes provisions for open space. These requirements are straight-forward in the residential districts. In the business districts, however, there is a somewhat complicated system for open space requirements and incentives in the form of density bonuses. No provisions are made in the by-law for indoor recreational space. Front, side and rear yard setbacks are required in residential districts as are property line setbacks in the business districts.

Environmental issues such as wind, noise and sunlight are dealt with in the downtown districts through general design guidelines. No reference is made to assisted or affordable housing in the by-law.

2.2 Districts

There is a hierarchy of residential districts which ranges from RR-1 "Restricted Residential Single-Detached District" to RM-7 "Residential High-Density Multi-Dwelling District". The RR-1 to RM-2 are low density districts. Therefore, for the purposes of this study, attention was focused on the higher density districts RM-3 to RM-7 as being more likely designations for the central city.

In these residential districts, no actual residential use is permitted. The only permitted uses are: accessory buildings, essential public services, parks and playgrounds, and utilities. All residential uses are classified as discretionary uses. Therefore, even any residential proposal would require a permit by means of development review.

There are two designated districts in the by-law for the central area, the central business commercial district (CM-1) and the downtown business district (CM-2), both of which permit the full range of office and retail uses. According to city planners, CM-1 is an outmoded district on the periphery of CM-2. The City is attempting to dispose of this designation, but it is still in force at present.

Mixed Uses

No commercial uses are permitted in any residential district except for limited retail uses for the convenience of residents in the high density RM-7 district. In fact, they are not even permitted in RM-7 except as discretionary uses.

Mixed residential and commercial uses are permitted in the business districts. However, residential development is not explicitly encouraged in the by-law. The one incentive that exists for residential development in the business districts is that higher densities can be attained without providing the prescribed amenities which commercial development must provide. Nevertheless, only 300 units have been built since 1984, which is also attributable to the economic downturn, the exodus of the 20 to 25 age group and low rents, according to Calgary city planners.

In mixed-use buildings, no residential unit may be located below the third floor level unless the City feels the location provides an acceptable residential environment. Furthermore, no residential unit, other than a caretaker's or superintendent's apartment, may be located below a commercial use.

2.3 Density Requirements

Residential districts

The table below shows that density is controlled in residential districts by 3 mechanisms: minimum site area, UPH and building height.

From discussions with Calgary city planners, it appears that the height restrictions are more flexible than the UPH, and are often exceeded.

District	Min. Site Area	Maximum UPH	Max. Height
RM-3	279 m^2	111	3 stor./9 m
RM-4	279 m^2	148	3 stor./9 m
RM-5	279 m^2	210	4 stor./12 m
RM-6	279 m^2	321	6 stor./16 m
RM-7	279 m^2	**up to 1,600 m^2:** 321 **1,600 m^2 to 4,000 m^2:** +2.47 units/add. ha to max. of 395 **above 4,000 m^2:** 395	17 stor./46 m

For senior citizens housing projects, the maximum density may be 150 percent of the maximum allowed for the residential district in which it is located.

Central Business Commercial District (CM-1)

In the designated bonus areas of the downtown districts, the developer may use either of the two following methods to determine the maximum gross floor area:

a. A maximum gross floor area equal to 3 times the site area.

b. The maximum gross floor area achieved from the sum of the floor areas allowed in each of the bonuses, where the base bonus area is 2 times the site area.

The gross floor area is defined in the By-law as "the sum of the areas of all plans of a building measured to the glassline, or where there is no glassline to the outside surface of the exterior walls, or where buildings are separated by firewalls, to the centre line of the common firewalls, and includes all floors totally or partially above grade level and all mechanical equipment areas".

Outside of the designated bonus areas, the first method must be used.

Furthermore, there is a height restriction of 45.8 metres if the building is located within 152.4 metres of the banks of the Bow River.

Downtown Business District (CM-2)

The basic permitted density is FAR=7.0. However, a maximum additional FAR=8.0 may be achieved through the provision of specified public amenities, for a maximum FAR of 15.0. In what seems to be very rare cases, a further additional FAR=5.0 may be achieved, generally from density transfers for heritage preservation, off-site improvements or sunlight protection on public spaces, for a total maximum FAR of 20.0.

There are no height restrictions in this district, except where sunlight requirements must be met.

Density Bonuses

Bonuses are provided for in the by-law in specified bonus areas in order to achieve open spaces and public facilities at grade or at the +15 level. These bonuses are given as increased building density.

2.4 Amenity Space

Private Open Space

In residential districts, private outdoor amenity space is to be provided as follows:

Patios and Courtyards

- A minimum dimension of 2.4 metres and a minimum area of 7.4 square metres for each dwelling unit located at or below grade level.

Balconies and Terraces

- A minimum dimension of 1.5 metres and a minimum area of 4.5 square metres for each dwelling unit located not more than four storeys above grade. A minimum dimension of 1.8 metres and a minimum area of 5.6 square metres for each dwelling unit located more than four storeys above grade.

Mixed-use buildings containing residential units must provide private amenity space of 5.6 square metres per dwelling unit in the form of an open or enclosed balcony with a glazed opening to the outside amounting to no less than 75 percent of the exterior wall and have a minimum dimension of 1.8 metres. From the by-law's definition of gross floor area, this space is not counted in the FAR.

Furthermore, if 50 percent or more of the gross floor area of a building is comprised of dwelling units, then a minimum of 40 percent of the gross site area must be provided as common amenity space for all residents through a combination of indoor and outdoor spaces. This may include the spaces provided as private amenity space from the point above.

Public Open Space

Furthermore, there exists a residential bonus area in the Central Business Commercial District for which the mandatory open space requirement is:

- Public space open to the sky, at grade or at +15 level, comprising at least 20 percent of the net site area.

For senior citizens housing projects, communal indoor amenity space at a minimum of 4.6 square metres per dwelling unit may be substituted for private outdoor amenity space.

In the Central Business Commercial District (CM-1), the minimum public open space requirement is 10 percent of the net site area of a project and can be provided in the form of a public plaza or walkway at the +15 level. Where the site abuts a lane, the developer must provide a public plaza over the full width of the lane at the +15 level. An area of 18.6 square metres is required for every 15.2 metres, or part thereof, of site frontage. Furthermore, where in the opinion of the Calgary Planning Commission the facility is required to complete the +15 level system, pedestrian bridge connections at the +15 level across streets and avenues of a minimum dimension of 3 metres must be provided.

In the Downtown Business District (CM-2), the minimum public open space requirement is 5 percent of the net site area of a project. It must be open to the sky. On-site pedestrian space and street corner pedestrian space must also be accommodated. A development must make provision for connecting to the +15 level system and contribute to the +15 Fund.

There are no communal amenity space requirements in place except for a specially designated area called Chinatown.

2.5 Social Housing

No reference in the by-law is made to incentives for assisted or affordable housing. However, the City administers a municipal non-profit corporation called "Calhomes" which builds affordable housing according to political demand. This agency works in conjunction with provincial and federal housing programmes and builds to their standards.

2.6 Urban Design and Environmental Requirements

There are building design, character and appearance requirements to achieve compatibility with the surrounding area. These guidelines are fundamental tools for negotiation during development review.

Minimum Setbacks

All residential districts have minimum front, side and rear yard setbacks. For all medium density districts (RM-3 to RM-5), the minimum depth for the front yard is 3 metres. For the street side on corner sites, the minimum depth is 3 metres, 1.2 metres if it is on the interior side, and 3 metres if on the interior side which is used to provide access to the rear of building. A minimum 7.5 metres is required for the rear yard where not abutting a rear lane, and 5 metres where abutting a lane.

For the high density RM-6 and RM-7 districts, front and side yard minimum depths are from 3 to 6 metres depending on the number of storeys, and the rear yard minimum is 7.5 metres.

In both CM-1 and CM-2, minimum setbacks are required according to the by-law's general provisions for setbacks from the basic right-of-way. These setbacks are necessary to ensure that adequate space is available to accommodate both future public facilities and a satisfactory pedestrian right-of-way. The minimum setback distances are listed, according to street address, in a Setback Table. They are, for the most part, from 2 to 5 metres on each side.

In addition to this, there is a further setback requirement for a building containing residential units in the Downtown Business District (CM-2). The living room and bedroom windows must be located at least 7.5 metres from a side or rear property line or 15 metres from the facing windows of any other building on the same site.

Environmental requirements are dealt with in the by-law under the general rules for downtown districts as follows:

- Wind and Noise

  Adverse impacts of wind and noise on pedestrians at street and +15 levels must be minimized through the design and orientation of buildings and the location of ventilation and other mechanical equipment.

- Sunlight on Important Public Places

  Developments may not place selected public malls, parks, and buildings in shadow at specified dates and times.

According to City planners, only wind and sunlight studies are routinely required.

2.7 Parking

According to City planners, 0.5 spaces per dwelling unit are required in all areas of the city. In senior citizens housing projects, the requirement is one quarter that of the standard. This acts as an incentive to build senior citizens housing.

2.8 Conclusion

The City of Calgary does not have direct controls over its development. Instead of prescriptive zoning, it has more discretionary powers, leaving itself in a reactionary role vis-a-vis the developer. In terms of policy, the City lays out its goals for land use, but the quality of the project is not dictated by land use by-laws. Each project is judged on its own merits in a development review process. To attain the City's goals, negotiation takes place, which, according to City planners, has resulted in both good and bad projects, depending on the circumstances.

Because there is so little recent residential development in the downtown districts, assumptions cannot be made concerning the positive and negative aspects of the existing regulation. Suffice it to say that the meagre amount of housing built in the past few years is evidence of a system which does not necessarily encourage "living downtown".

3. CHICAGO

3.1 General Description

Regulations governing residential development in Chicago are contained in the residential, business and commercial districts of the Zoning Ordinance. All of these districts permit residential uses in conjunction with commercial uses and regulate building bulk through floor area ratio (FAR) restrictions as well as a maximum unit per square foot requirement. There are no maximum height restrictions.

In addition, Chicago implements Planned Developments which are described as "special zoning districts that are established for individual developments by virtue of their size, scale or complexity. These projects are governed by rules established as part of the Chicago Zoning Ordinance."

According to Chicago's planners, the City has not had much residential development downtown, largely because of the weakness of the residential market in comparison to the office market, especially in the Central Loop area. The City has begun to take steps to encourage more residential development downtown largely through loft redevelopment and infill and is currently in the process of trying to create the integration of residential with commercial uses on the 72 acre (29 hectare) "Central Station" railway lands, located on Chicago's south lakefront.

In general, the zoning by-law does not contain any requirements for open space, recreation space or community facilities. Although the higher density residential districts do require some setbacks, in the Central Business Districts, setbacks and open space are achieved through incentives in the form of density bonuses as described below. According to the Chicago planners, these and other residential amenities are also achieved through negotiations related to the site plan review process which is required for a Planned Development or when a development proposal does not conform to the Zoning Ordinance.

In order to guide that negotiation process, the City of Chicago has developed design guidelines for several districts within the central area. Although these guidelines do not have the force of the zoning codes, they establish the City's objectives regarding such issues as pedestrian walkways, open space, relationship of the buildings to the street and establish parameters to the negotiation process. The design guidelines also indicate the areas in which the City would like to see residential development in conjunction with commercial uses, as in the "Central Station" Development Guidelines.

3.2 Districts

There is a hierarchy of residential districts which ranges from R1 - Single Family Residence District to R8 - General Residence District. The R1 to R5 zones tend to be lower density areas in which commercial uses are not permitted in association with residential. For purposes of this study, attention was focused on the higher density R6, R7 and R8 districts as more comparable to development within Toronto's Central Area.

The Chicago Zoning Ordinance contains seven categories of business districts, the highest density of which are the B6 and B7 districts with maximum FARs of 12 and 16 respectively. These zones contain the full range of office and retail uses as well as some manufacturing-type uses in the case of the B7 districts.

Mixed Uses

In the lower density residential districts, no commercial uses are permitted. In R6, R7, and R8, limited retail uses are permitted for the convenience of residents, in buildings with a minimum of 50 dwelling units. Limited office uses which are restricted to 3,000 square feet (279 square metres), including those of doctors, dentists, real estate firms and banks, are permitted in buildings with 400 or more units. All retail and office uses within an apartment building must be accessed only through the main lobby and not from the street.

Residential uses are permitted above the second floor in all of the business districts. Although the maximum FAR is established for the business districts, the Zoning Ordinance also applies a maximum unit per square foot ratio for residential uses within each district.

3.3 Density Requirements

Density is controlled by the floor area ratio. The Zoning Ordinance defines floor area as "the sum of the gross horizontal areas of several floors of the building measured from the exterior faces of the exterior walls or from the center line of walls separating two buildings."

Floor area includes:

- the basement when more than 1/2 of the basement height is above grade level;
- mechanical space, except on the penthouse; and
- interior balconies, mezzanines and enclosed porches.

It would appear from this definition that outside balconies are not included in floor area. Moreover, floor area specifically excludes space devoted to off-street parking and loading.

The floor area ratio is defined as the floor area of the building on a zoning lot defined by the area of that lot, or in the case of planned unit developments, by the net site area. Density is controlled through FAR as well as by a maximum dwelling unit per lot area ratio in the case of residential development.

Density Controls and Bonuses

As shown in the following table, density is controlled in the higher density residential districts by three mechanisms: minimum lot size; minimum lot area/dwelling unit; and FAR. Densities range from 4.4 in the R6 districts to 10 in the R8 districts.

In addition to these base densities, the Zoning Ordinance makes provision for increased densities in situations where a development is adjacent to a public open space of a minimum of five acres (2 hectares) in size.

Bonuses are also provided in terms of floor area where the number of units is less than the maximum prescribed for the individual district. For each 1 percent decrease in the number of dwelling units, a proportional increase of 1 percent (up to a maximum of 15 percent) may be granted. Even beyond the 15 percent, an increase of 1 percent in floor area (up to a maximum of 10 percent) is achievable with every 2 percent reduction in the allowable number of units. It would appear that this provision would seek to encourage large units.

District	Min.Lot Size	Unit/Sq.Ft.of Lot	Max FAR	Max FAR if adjacent to 5 acre (2 hectare) open space
R6	1650 sq. ft. 153 sq. m.	1 d.u./200 sq. ft. (217 units/acre) (536 units/ha)	4.4	5.0
R7	1650 sq. ft. 153 sq. m.	1 d.u./145 sq. ft. (300 units/acre) (741 units/ha)	7.0	8.0
R8	1650 sq. ft. 153 sq. m.	1 d.u./115 sq. ft. (378 units/acre) (934 units/ha)	10.0	11.5

As in the residential districts, density is controlled in the business districts through minimum lot area and FAR as illustrated in the table below.

District	Minimum Lot Area	Maximum FAR
B6-6	115 sq.ft. (11 sq.m.)/d.u. (378 units/acre) (934 units/hectare)	12.0
B6-7	same	16.0
B7-6	same	12.0
B7-7	same	16.0

As in the residential zones, a bonus of 15 percent is added to the maximum FARs if the side or front lot line is adjacent to a public open space of at least 5 acres (2 hectares).

Unlike the residential zones, no setbacks are required in the Central Business Districts. However, incentives are provided through bonuses for the creation of setbacks and/or open spaces:

- bonuses of 1.5 to 2.0 FAR (depending on the district) are available for every street frontage on which the ground floor is set back at least 20 feet (6 metres) from the lot line for the entire frontage, as long as the setback is landscaped and unobstructed except for columns or piers supporting upper storeys or the roof.

  An additional bonus of 0.5 per street frontage is available if all the storeys above the ground floor are set back the same amount.

  It should be noted that this bonus appears to apply only if the building comes within the permissable floor area ratio limits established for the district.

- a bonus is also provided for the provision of open space at grade, where the open area is open directly to the sky and extends between exterior building walls and lot line for a minimum of eight feet. This bonus is calculated as:

  $$2 \times \frac{\text{open area}}{\text{total site area}}$$

- Above grade open space, i.e. presumably on a podium or roof, may also receive a bonus of 0.3 or 0.4 (depending on the specific district) times the open/total site area ratio.

3.4 Amenity Space

The zoning by-law contains no requirements for open space, recreation space or community facilities.

3.5 Social Housing

The Chicago Zoning Ordinance does not contain any reference to social housing. There are, however, different density and parking requirements for efficiency units and lodging housings/apartment hotels.

3.6 Urban Design and Environmental Requirements

Design Guidelines prepared for a number of areas including River North, Central Station and Chicago River Districts contain substantial detail on the City's objectives for everything from land use and density, pedestrian connections, the location and design of private and public open spaces, streetscape details and building setbacks. However, as stated earlier, these guidelines do not have the legal authority of the Zoning Ordinance and, therefore, can only be implemented through negotiation. One would assume that in cases where development is proposed in the form of Planned Unit Developments, which require approval of comprehensive site plans, the City would have more leverage in implementing such objectives.

Minimum Setbacks

In residential districts, the Chicago Zoning Ordinance requires a minium front yard setback of 15 feet (5 metres) or 12 percent of the lot depth, whichever is less, for all lots within R6, R7 and R8 zones except for those lots which front on a public open space of at least 5 acres (2 hectares) and which have a minimum depth of 200 feet (61 metres).

No side yard setbacks are required.

A minimum rear yard setback of 30 feet (9 metres) is required for these zones. However, it is interesting to note that this setback may begin at a height of 18 feet (6 metres) above curb level. This would appear to mean that the building could be built to the lot line and stepped back after the second story. Through-lots generally do not have rear yard requirements except for those lots which are greater than 125 feet (38 metres) in depth. In these cases, an unobstructed open strip is required: 1) either midway between the streets on which the lots front, in which case the strip must be at least 10 feet (3 metres) in width; or 2) along all adjacent lot lines other than the street lines, in which case the strip must be at least 5 feet (1.5 metres) wide plus an additional 1 foot (0.3 metres) wide for every 5 feet (1.5 metres) or fraction thereof by which the lot depth exceeds 125 feet (38 metres) to a total width of 30 feet (9 metres).

The Zoning By-law does not contain any regulations or guidance requiring environmental impacts of development, such as wind, shadow, etc. However, the Central Station Development Guidelines do require that performance standards regarding shadowing impacts on internal and external open spaces be incorporated in Master Plans required to implement Planned Unit Developments.

3.7 Parking Requirements

The parking requirements for the various zones are as follows:

R6	1 space/dwelling unit
R7	1 space/dwelling unit for first 50 units; and 0.55 spaces/dwelling unit for those exceeding 50 units
R8	0.55 spaces/dwelling unit

3.8 Conclusion

Chicago's Zoning Ordinance provides only the most basic regulations to cover residential density and does not address any social, environmental or qualitative issues relating to downtown living. These issues tend to be addressed in development guidelines for specific areas within the city. However, the extent to which the City has been able to achieve its objectives enunciated in the guidelines is difficult to ascertain.

4. NEW YORK

4.1 General Description

Land use in New York City is governed by a single regulatory document, the Zoning Resolution. There is no overall planning document, such as the Official Plan.

Residential development is welcomed in Manhattan, though not explicitly encouraged in the Resolution. Most districts are zoned residential or commercial, where residential development is permitted.

4.2 Districts

Within the Zoning Resolution, there are basically three use districts: residential, commercial and manufacturing. The districts are subdivided into a variety of zoning districts which cover the diverse range of controls that the City has implemented. The residential districts have ten different zoning categories ranging from low to high density. Applicable to this study are the five densest categories (R6 to R10), from medium to high density, all of which may be found in Manhattan. Most applicable, however, are the commercial zones which also permit residential uses.

Mixed Uses

The residential zones of the City of New York allow housing, community facilities, institutions and local stores. Commercial zones may be overlays to the surrounding residential zones, so that the requirements of the residential zoning apply to residential development in the commercial zone. These zones permit a variety of retail and service uses, as well as office commercial uses. The most relevant commercial districts are C5 and C6, which serve the Central Business District.In addition, one particular area of New York has relevance to this study. The Midtown area has its own zoning amendment. The "Special Midtown District" consists entirely of commercial zones, which include a significant amount of residential development. They are, in effect, mixed commercial/residential zones. The district was designated in a move to control discretionary zoning and create a predictable as-of-right zoning in its place.

The Midtown zoning encourages high-density housing in commercial areas. There are three common ways that the mix may be calculated, depending on the area. The first way applies in areas permitting 12.0 times coverage, where density is capped at the total floor area ratio (FAR) applying to an area and divided up in any ratio for the different uses in a mixed-use building. The second way is that commercial uses in some areas are capped at 2.0 times coverage, and these uses must be located at the bottom of the building. The remainder of the permitted FAR may be used for residential and other uses. The third way applies to areas where commercial uses are capped at 15.0 or 18.0 times coverage.

Residential uses may take any amount of this FAR (i.e. it is subtracted from the total permitted FAR), up to the State's limit of 12.0 times coverage. The various permissible combinations allowed in the C district are shown in chart form.

Furthermore, any building containing residential uses and located in a commercial district is regulated by the density, bulk, and open space requirements of other residential districts specified in the Resolution. These requirements are described in the sections below.

New York is quite successful at attracting downtown housing development, given that almost all of Manhattan would be considered downtown in Toronto terms. The City has come through a recent housing boom in which a great deal of high density condominium development has been built. In the Upper East Side, for example, 119 buildings were built or renovated in the high density residential or commercial zones over the period from 1978 to 1988.

Although there exist no bonus incentives to build residential, it is built nevertheless. Market demand is very strong and residential development can achieve financial returns similar to commercial. According to City planners, 25 percent of all development in Manhattan over the last 8 years has been residential. In fact, purely residential buildings are discouraged through coupling urban design guidelines which require commercial at grade in specified areas to the by-law.

The planner for the Midtown area stated that when mixed-use buildings are developed, they tend to be predominantly residential buildings, with three to five floors of office space at the bottom of the building. Under these circumstances, the commercial space does not rent well. Office tenants in Manhattan prefer to be in single-use buildings.

4.3 Density Requirements

Density is partially controlled by the floor area ratio. The FAR is described as the ratio between the amount of usable floor area permitted in a building and the area of the lot on which it stands. For residential uses, the maximum FAR is 12.0 times coverage. This limitation is set out in the City zoning but is really a function of a New York State law that requires that no residential building in the state may exceed 12.0 times coverage.

Floor area is defined as "the gross area of each floor of the building, excluding cellar space, floor area in open balconies, roof elevator or stair bulkheads and floor space used for accessory parking which is located less than 23 feet (7 metres) above curb level".

Densities in the R6 to R10 zones range from FAR = 0.78 and approximately 160 units per acre (395 per hectare) up to FAR = 10.0 (or 12.0 with a bonus) and approximately 581 dwelling units per acre (1,437 per hectare)(20 percent more with the bonus).

In the densest residential neighbourhoods, the density is one of three factors which control the resulting form. The two others are the height and setback limitations and the open space ratio (see below). A second form of density control is also used in conjunction with FAR. It is expressed as a specified number of square feet of lot area per dwelling unit or room, although it has been converted above for ease of comparison. This means of controlling density is used for the same purposes as the units per hectare approach is used in Toronto: to plan for the addition or expansion of public facilities and services. However, it does not supersede FAR as the primary means of control.

In commercial districts in Manhattan, the floor area is the primary means of regulating bulk. The bulk provisions of the surrounding residential districts, usually the R6 to R10 zones, apply when residential buildings are proposed.

The floor area ratio for general development in the Special Midtown District varies, depending on where a development is located. The West Side (Theatre Subdistrict) has been designated as a growth area and density on certain of the avenues has floor area ratios of up to 14.0, with incentives for increasing the density up to a maximum of 16.8. Midblock sites have a lower general density of 10.0 or 12.0. In most of the East Side area, general development is limited to FAR = 15.0 for the avenues and FAR = 12.0 in the midblocks, with incentives up to FAR = 18.0. The Museum of Modern Art and environs constitutes the Preservation Area, where densities are lower to reflect the special character of the area. It has a maximum FAR of 8.0, with no bonuses.

In purely residential buildings or residential portions of mixed-use buildings in the Midtown area, the FAR is generally 10.0, with additional density up to a maximum of 12.0, granted for the provision of recreation space. In addition to the FAR, a minimum of 300 square feet (28 square metres) of floor area must be provided in the Special Midtown District for every room. A room is defined as being a space such as a living room or bedroom. The restriction is in lieu of the rooms per lot area approach used in residential districts.

4.4 Amenity Space

Open Space Requirements

Open space requirements apply in all residential districts in New York City. Open space is required as a minimum percentage of the total floor area of the building, and is called the open space ratio. The minimum percentage varies from 33.5 in the R6 district to as little as 4.2 in the R9 district. In the R10 district, a plaza bonus replaces the requirement for open space. Open space is defined as being open to the sky and accessible to all residents. Up to half of the space may be used for on-site parking. The restrictions sometimes compliment and sometimes replace lot coverage requirements.

While there are no open space requirements for general development in Midtown Manhattan, public space is obtained through zoning by-law requirements. "Pedestrian Circulation Space", including sidewalk widenings, corner circulation space, arcades and through-block connections, must be provided in some form, proportionate to a building's total floor area. In some locations, the requirements may be connected with a bonus.

Incentives are provided to developers to provide urban parks in Midtown. Development rights may be transferred from the open space, provided the total FAR of the resulting development is not increased by more than 20 percent. In return, the park must meet certain criteria: it must be at least 4,000 square feet (372 square metres) in size, located on the north side of the street and publicly accessible. A special permit is required to take advantage of these transferred development rights.

Recreational Space

In the Special Midtown District, recreation space for residents amounting to 6.5 square feet (0.6 square metres) per room is required to achieve the maximum FAR. It may be provided at any level, including the roof. It may not have less than 500 square feet (47 square metres) of continuous space at any one level and 50 percent of the area must be open to the sky. The remainder may be roofed but no more than 25 percent of the total space may be fully enclosed.

The space must be directly accessible from the lobby of a public area served by the residential elevators. A notice describing compliance with the zoning requirements must be posted somewhere within the space. It appears that this space would be included in the FAR.

4.5 Social Housing

Social housing goals are not explicitly stated in the general zoning resolution. The zoning in New York generally permits a relaxation of standards for non-profit housing for seniors. Greater lot coverage and smaller units are permitted.

In the multi-unit housing that exists in Midtown Manhattan, the average housing size is close to one person per household, regardless of the size of unit. Unless affluent, a family will not live in Midtown, because schools, community facilities and other services are not available.

Recently, changes to zoning and planning requirements have been driven by the need to provide affordable units. As yet, the only provision in the Zoning Resolution which deals with affordability is a density bonus given to developers building in R10 districts and is called the Inclusionary Housing Program. The developer may build market rate buildings at higher densities (12 times coverage), in return for building low income units to City specification. These units may be built on-site or off-site but mixed income developments are seen not to work in New York, so they tend to be built off-site. Off-site units must be located within a half mile (0.8 kilometres) radius of the market development, and they must be designed and built at the same time as the market development. The lower income units must be guaranteed to remain so for the life of the market development. At the moment, the City is trying to revise and equate the Inclusionary Zoning Program incentives with the City's plaza bonuses.

Publicly assisted housing and non-profit housing may undergo a separate development review and the consideration of design criteria, but this applies only if the conditions of government funding require that this review occur.

4.6 Urban Design and Environmental Requirements

The Zoning Handbook, an advisory document, states that the purpose of the zoning resolution regarding housing is to "promote design flexibility, to encourage more open space and to foster development that is generally compatible with the character of the surrounding community" (Zoning Handbook, 1981, p.13).

In the Special Midtown District, the main urban design requirements, besides the open space requirements listed above, have to do with ensuring the continuity of retail uses and streetwalls along some of the major streets, such as Broadway, Fifth Avenue and Madison Avenue. In addition, there are requirements and incentives for the relocation of the stairways of the subway system away from the sidewalks and onto private property.

Incentives also exist for the provision of plazas and through-block gallerias, subway connection improvements, preservation of landmarks and restoration or construction of theatres in the Theatre District. In return for the bonus or incentive, however, a developer has to follow detailed standards in providing these amenities. In the case of the plaza bonus, for example, the plaza must be at least 1,600 square feet (149 square metres), have a certain orientation and shape, guarantee public access, provide a minimum number of trees and provide seating and a plaque describing the features of the plaza.

Recent changes to the zoning resolution have provided new bonuses for the provision of "quality housing" in upper and lower Manhattan. This refers to 6 storey apartment-style buildings that fit with the existing context of the area. The bonus depends on the provision of community space, bigger lobbies, better urban design, etc. An attempt is also being made to provide a new form of zoning to encourage the brownstone form of housing development.

Height and Setback Limits

In residential districts of the City, front, rear and sideyards may apply, although in the case of medium to high density districts, the only requirement is a 30 foot (9 metre) rear setback. If a developer chooses to provide side yards these must either be a combined width of 16 feet (5 metres), or 8 feet (2.4 metres) each. The same side yards must be provided in the case of contextual zoning districts or buildings constructed under the quality housing program described below. In certain contextual zoning districts, there may also be a front yard requirement of 5 feet (1.5 metres).

For most residential and commercial districts, height limits vary depending on the location. In addition to height limits, there are sky exposure plane setbacks which dictate that a building not penetrate an inclined plane which begins at a point above a maximum front wall height.

In the Midtown Zoning amendment, these restrictions have been superseded by daylighting requirements, and height is limited only at the street line beyond which setback provisions apply. The Daylighting provisions ensure access to light and air at the street level. Two alternative types of regulations may be used. The first relates heights and setbacks to street width. The second, daylight evaluation, is a test of the amount of sky that will be obstructed by a building, as viewed from the street. Either of the methods may be used.

Relief from these requirements is only given under very limited circumstances, such as the accommodation of an existing landmark, and requires that the developer apply for a special permit. This is because the two methods are thought to give designers sufficient freedom that exceptions should not be necessary.

Siting Requirements - Lot Size and Coverage

A minimum lot size of 1,700 square feet (158 square metres) and a minimum lot width of 18 feet (6 metres) exists in residential zones in the City. There is also a minimum required lot area per room which varies by residential district.

Coverage requirements vary depending on the zoning district. Contextual residential zones have maximum lot coverage limitations, but other residential and commercial districts do not. In the medium to high density contextual zones, coverage depends on the location of the lot (interior or corner) and varies from 55 to 100 percent of the lot.

There are no coverage requirements in the Special Midtown District beyond the envelope that the height and setback requirements form. There are, however, further separation distances that require that buildings be no closer than 8 feet (2.4 metres) from one another and that windows of residential buildings be no less than 30 feet (9 metres) from a building or lot line.

4.7 Parking

Parking provisions apply to all development in New York, and generally require that off-street parking be provided in proportion to the amount of use that it generates. Exemptions exist in much of Manhattan for commercial and community uses, but not residential uses, since public transit in this area is adequate. Residential requirements vary depending on the zone, with 70 percent of units requiring a space in R6 zones and 40 per cent of units requiring a space in R8 to R10 zones. It must, in some cases, be structured parking. Reductions are possible for public, publicly assisted, or private non-profit housing. There are also maximum limitations imposed on the size of parking facilities, determined either by lot size or by the number of units in a residential building.

4.8 Special Zoning Tools

Contextual Districts

Amendments to the Zoning Resolution in 1984 and 1987 permit the designation of contextual districts in medium and high density residential (also commercial) districts. These districts are a response to the efforts of the existing residential zoning regulations which, with their emphasis on open space, can result in tall, thin buildings covering only a small portion of their lot. These buildings do not necessarily fit in with their surrounding context and they frequently have different setbacks than the predominant streetwall.

Contextual districts have been added to existing zoning districts through a suffix to the use code, for example, R6A or R6B. Their purpose is to ensure that new development conserves the scale and form of the existing surrounding neighbourhood. This is achieved through requirements for lot coverage and streetwall lines. Buildings must rise to a minimum height before they are required to set back in accordance with front and rear sky exposure planes.

The result is a lower, bulkier building which comes directly to the existing streetwall.

Quality Housing Program

In the normal R6 to R10 districts, it is possible to come under the same controls that are applied in the contextual districts.

If developers elect to come under the Quality Housing Program, as it is called, they must also meet standards for neighbourhood impacts, recreation space, safety and security, and the building interior. Neighbourhood impact requirements include meeting all bulk control requirements of the corresponding contextual zone and providing street trees. Recreation space standards must be met for indoor and outdoor space, landscaping as a percentage of the open lot area and on-site tree planting.

Under the Quality Housing Program, there is a minimum average unit size of 575 net square feet (53 square metres). In return for meeting the Quality Housing Program requirements, it is sometimes possible to exceed the maximum FAR of the zone, although this is not the case in Manhattan.

Large Lot Developments

Planned unit development is mainly for developments outside the central Midtown area, but is still a tool available to the City of New York to plan large developments at one time. In order to allow for more design flexibility, various restrictions may be relaxed. The provision of certain community facilities is required. Bonuses may be granted for providing such amenities as large apartments, community facilities and recreation space.

For large sites of over 60,000 square feet (5,574 square metres) or the size of a block in the Special Midtown District, a developer may choose to follow a different process requiring a special permit. In order to qualify, the site must be largely vacant and the proposed site plan must be "consistent with the basic strategy of the Special Midtown District and the purposes of the mandatory district plan elements." The restrictions concerning the distribution of floor area streetwall and retail continuity need not be strictly followed, provided the result is a better site plan, according to the City Planning Commission.

4.9 Conclusion

It is extremely difficult to generalize about the success or failure of residential development in New York, if only because the diversity of rules and regulations that apply to it creates such a variety of forms. Some comments can be made, however, on mixed-use downtown development of residential units in recent years.

The 1980s saw the over-development of high-rise, large unit residential buildings in Manhattan. This is encouraged by the Midtown Plan through the correspondence of the units per acre approach with the total permitted FAR. According to planners, however, these buildings resulted largely from market factors. The market was driven in part by existing development on the Upper East and West Sides. Developers were competing with condominium conversions of pre-war apartment buildings which provided a mix of unit sizes. As a result, family-sized units were built over this recent period. Further, developers made an advantage of necessity by heavily marketing the required open space and recreational facilities as extra amenities.

Despite the mix of unit sizes provided, the average household size in Manhattan is close to one person per household. Families do exist in Manhattan and where they do, they live in high-rise buildings, since that is what is available in the form of housing. However, a family must be affluent in order to do so, since schools and community facilities are not available in the immediate area. As a result, by far the majority of families live in the boroughs, where they can also own land.

Affordability of units in Manhattan is affected by not only the services purchased elsewhere, but more important, the land costs downtown, which are among the most expensive on the continent. The recent move on the part of planners and neighbourhoods to require "quality housing" achieves contextuality in an area, but at an expense. Since the zoning frequently reduces leasable space relative to land costs, this type of development pushes the cost of housing up beyond even the cost of large unit high-rise development. Medium-rise development is further discouraged by fire regulations which impose stringent standards on buildings greater than three storeys.

In the present market, neither form of development is being constructed, and most residential development activity has transferred to the more affordable outer boroughs, where duplexes and townhouses are being built.

Concerning built form, the height and setback controls are quite seriously considered in the City of New York. In the case of the new contextual zoning, public opposition to tall developments in low-scale areas led to changes in the zoning. In other cases, height is less of a concern because all the surrounding development is tall. Regardless, the day-lighting or sky-lighting provisions must be met. Issues of livability do remain a problem in Manhattan with which planners continue to struggle.

5. SAN FRANCISCO

5.1 General Description

Mixed-use development is a specific planning objective in San Francisco. In addition, their development standards, as laid out in their Zoning Code, provide the framework for an explicit focus on the public aspects of new development, and thus focus on ensuring that new buildings relate well to the character and scale of their surroundings.

The Code seeks to promote "balanced and convenient neighbourhoods, having appropriate public improvements and services, suitable non-residential activities that are compatible with housing and meet the needs of residents, and other amenities that contribute to the livability of residential areas".

5.2 Districts

San Francisco's Zoning Code divides the City into a series of "use districts". The only residential districts pertinent to the Living Downtown study are the Residential - Commercial (RC) areas.

Residential uses are also permitted in several of the City's C3 districts, which are the downtown high density commercial areas. Specifically, residential uses are permitted in C3O; C3R; C3G; and C3S. In addition, San Francisco has several "special use districts" in which mixed-use development is either required or specifically encouraged. The C3 and Special Use districts are thus San Francisco's counterparts to Toronto's mixed-use areas.

Residential Districts

The RC districts are intended to "protect and enhance districts characterized by structures combining residential and neighbourhood serving commercial uses". These supporting commercial uses are generally to be provided in or below the ground floor of apartment buildings, and are intended to meet the convenience needs of the local residents only. Such uses are not permitted to generate excessive traffic. Hence these areas are only marginally mixed-use.

Mixed Uses

C3O is the Downtown Office Core. Residential uses are permitted and in fact encouraged here, however, planning staff indicate that there have been only a few residential developments in the core to date. This results from the very high cost of land in this area, and the resultant difficulty in delivering housing at a price point that the market can bear.

C3R is the City's Downtown Retail district. Again, while residential uses are permitted here, there are few precedents.

C3G is the Downtown General Commercial district, covering the western portion of the downtown, and composed of a variety of uses, including retail, office, hotel, entertainment, clubs, institutions, and high density residential. The overall intensity of development is lower here than in the downtown core.

C3S is the City's Downtown Support district. It incorporates such uses as wholesaling, printing, secondary office, and parking. The district has been underdeveloped to date, and is seen to be an area which provides the opportunity for major redevelopment of new uses, on large sites. Residential uses are being encouraged in both the C3G and C3S districts. A few buildings have been constructed, but demand for residential development in these districts has not been particularly strong to date.

Special Use Districts

San Francisco has been very successful in achieving mixed-use development in their "special use districts" in and around the downtown. These districts generally have either a specific (frequently historical) character that the City is attempting to maintain, or represent transitional areas where the City is encouraging large-scale redevelopment in accordance with a specific "vision" or masterplan. Relevant examples include the Van Ness Avenue district, and the Rincon Hill district.

In the Van Ness special use district (comparable to a Toronto "Main Street" condition), the City is requiring the combination of commercial and residential uses in all new developments. The general requirement is that each new building contain at least a 3 to 1 ratio of residential to non-residential uses. The proponent can increase the ratio in favour of greater residential floor area if desired, but cannot under normal circumstances increase the commercial floor area as the City's priority in this area is new housing. The uses can be separated into two different buildings, provided they fulfil the ratio requirements, and are developed as a comprehensive project. Mixed-use buildings virtually all combine residential with retail. There have been few examples containing commercial office space.

The Rincon Hill special use district is an "underutilized and outmoded industrial area" in which the City is attempting to create a "unique residential neighbourhood close to downtown". While non-residential uses are permitted within residential buildings, the area will also contain a Commercial/Industrial sub-district. Mixed-use is to be achieved within specific buildings, but there appears to be an emphasis on achieving mixed-use through the creation of complementary residential and non-residential sub-districts.

5.3 Density Requirements

In the Code, the density of residential development is controlled by a combination of "Basic Floor Area Ratio" and minimum "land area per dwelling unit" restrictions. However, San Francisco planning staff note that the latter, which is essentially the counterpart to Toronto's uph system, is virtually meaningless, in that it is almost never applied.

San Francisco's Floor Area Ratio (FAR) system is basically the same as Toronto's floor space index (FSI) system, in that it represents the ratio of a building's gross floor area to the size of the lot on which it is located.

San Francisco's definition of gross floor area is also very much the same as Toronto's. As in Toronto, outdoor balconies are excluded from the calculation of GFA. Enclosed balconies are however included.

It is interesting to note that 5,000 square feet (465 square metres) of retail on the ground floor of residential buildings in the C3 districts is also exempt. In addition, the GFA of any cultural, educational, and/or social areas are exempt, provided they are available to the public free of charge.

The basic FARs and unit densities applying to the relevant use districts are summarized in the following chart. Basic FAR's can however be increased in exchange for the provision of such public benefits as the provision of social housing, or the preservation of historic buildings (through a transfer of density rights). However, such floor area bonuses have become less relevant in the City as a result of the introduction of their strict built form control system, as outlined in section 5.6 below. Specifically, bonus GFA cannot result in a building which exceeds the applicable height and bulk restrictions.

Basic FARs and Applicable Unit Density Restrictions by District

District	Basic "FAR"	Units/Sq.Ft. of Land
RC- 3	3.6	1 unit/400 sq. ft. (272 uph)
RC-4	4.8	1 unit/200 sq. ft. (544 uph)
C3O	9.0	1 unit/125 sq. ft. (871 uph)
C3R	6.0	1 unit/125 sq. ft. (871 uph)
C3G	6.0	1 unit/125 sq. ft. (871 uph)
C3S	5.0	1 unit/125 sq. ft. (871 uph)
Van Ness Special Use District	4.5 to 7.0	Not applied
Rincon Hill Special Use District	Determined site by site, through the permit review process (see below)	Not applied

In conclusion then, the maximum permitted FAR in the residential districts is 4.8 times, while the maximum permitted in the commercial areas ranges from 5.0 in the downtown fringe up to 9.0 in the downtown core. Most new residential and mixed-use buildings have FARs in the 3.0 to 6.0 range, and have been built in the special use districts. None have been built to the maximum of 9.0.

Considerably higher unit per hectare equivalents are permitted in the C3 districts than in the residential zones, implying that the City had been attempting to encourage smaller units in the core. However, as noted previously, the unit density standards are practically never exercised.

5.4 Amenity Space

Open Space and Recreation Requirements

"Usable open space" is required in all of the districts where residential uses are permitted. Such space is defined as an "outdoor area, on ground, decks, balconies, roofs, ... which is safe and suitably surfaced and screened, and designed and oriented in order to make the best practical use of the sun". The San Francisco Code makes a distinction between private and common usable open space. Private recreation facilities are not required in the City.

In the RC-3 zones 60 square feet (6 square metres) of private open space is required for each dwelling unit. In RC - 4, and C3, the requirement is reduced to 36 square feet (3.3 square metres) per unit. Common outdoor space can be substituted for private open space, but it must be provided at a higher ratio per unit. Specifically, if common outdoor space is to be provided in lieu of private, then it must occur at a ratio of 1.33 square feet (0.4 square metres) common for every 1.0 square feet (0.1 square metres) private. In the RC-3 zones this results in a requirement of 80 square feet (7 square metres) per unit; in the RC - 4 and C3 zones the requirement would be 48 square feet (5 square metres). Open space requirements in the special use districts vary, in order to address the particular needs of the area.

In addition, the Code sets out standards for open spaces. Private spaces provided in the form of balconies must have a minimum horizontal dimension of 6 feet (2 metres), and a minimum area of 36 square feet (3 square metres). Furthermore, balconies must have at least 30 percent of their perimeters unobstructed, and must face a street, a rear yard, or an "appropriate" common space.

In the C3 districts, the area of totally or partially enclosed solariums can be credited as private open space, provided that they are open to the outdoors through either openings or clear glazing, on at least 50 percent of their perimeter, and at least 30 percent of their overhead area and 25 percent of their perimeter is open or can be opened to the air.

Common outdoor spaces must be at least 15 feet by 15 feet (5 metres by 5 metres), and at least 300 square feet (91 square metres) in size. Common space can also be provided in the form of a solarium, subject to similar sorts of requirements (regarding openness to the air) as are private solariums.

In the C3 districts it is possible to provide open space for the residents off-site, as long as the space is within 900 feet (274 metres), and is completed and available for use prior to the occupancy of the residential building. This provision allows for the consolidation of larger, more useful open spaces, however, planning staff indicate that in practice such consolidated spaces have been difficult to achieve, largely as a result of the conflicting bureaucratic priorities of the City's public works department.

The Code specifies that downtown open spaces must be "adequate in size; be situated to be easily accessible to the public; be well designed; landscaped where appropriate; protected from uncomfortable wind; incorporate various features to enhance public use; and have adequate sunlight. All public open spaces are subject to the approval process spelled out in the City's "Guidelines for Open Spaces". Furthermore, all public spaces must be signed accordingly, and must indicate the features available within the space, the hours in which access is available, and the agency to contact in the event that any problems occur in the space.

5.5 Social Housing

In the C3G and C3S zones, additional GFA, over and above the basic FAR, is granted for the provision of affordable housing. However, such bonuses are targeted to particular areas of the City, and are in all cases subject to the height and bulk restrictions applicable to the given site. Planning staff indicate that they have been achieving most of their social objectives through permit review negotiations, as described below.

The City also achieves the provision of affordable housing through its "linkage" program, which raises revenue through levies applied to new commercial development, and uses the revenue to construct low cost housing. In addition, the City has inclusionary zoning requirements, which require that affordable housing units be provided within new residential developments, in certain instances. Planning staff indicate that inclusionary zoning has been very effective to date.

5.6 Urban Design and Environmental Requirements

Height and Bulk Districts

The San Francisco Zoning code combines density specifications (FAR and land area per unit requirements) with a set of height and bulk regulations. The purpose of these requirements is to ensure that the height and mass of new buildings relates to important attributes of the City pattern, such as surrounding heights, character, and bulk. They are also intended to protect and/or improve the integrity of open spaces and other public areas, and to direct development to appropriate areas of the City.

The Code divides the City into classes of height and bulk districts. Bulk is basically controlled through restrictions on a building's length and its diagonal dimensions. In certain districts, there are different restrictions applied to the base, lower, and upper tower portions of new buildings, to encourage continuity of the street wall, with buildings stepping back above certain heights.

These height and bulk controls are in fact the principle operative control exercised over new buildings in the City. According to the San Francisco Planning Department, the height and bulk restrictions prevail over FAR provisions, and definitely supersede the application of unit density limitations.

While the height and bulk controls are quite rigid, it is possible to achieve exceptions to the regulations in certain instances, through the City's "Permit Review" process. In particular, if an applicant can demonstrate that the design of the proposed building is much better without adhering to the regulations, or if extensive public benefits are to be provided, an exception may be granted. However, exceptions will not be granted if the resulting building would impose significant shade on public open space, or if it would increase wind conditions. Exempted buildings are still theoretically subject to the relevant FAR restriction, however, as noted above, the role of FAR has been largely superseded by the imposition of this built form control system. The permit review process is discussed in greater detail in the following section.

Of final note, there are specific height and bulk limits specified for "open space districts", in that no new building is permitted around a specified public park if it will cast any shade or shadow. San Francisco places a high priority on the microclimatic conditions in their public spaces.

Microclimatic Conditions

San Francisco has a comprehensive set of controls to regulate sun, shade and wind conditions. Sun access planes are applied in certain C3 areas, which new buildings are not allowed to penetrate. As noted above, there are also special requirements for development around certain public plazas and spaces, in order to reduce potential shadow impacts, through building design. These shadow planes have been very effective. Wind reduction requirements are also very strict, however, planning staff indicate they have been less effective, given their greater degree of complexity.

There is also a requirement that all dwelling units in residential areas face an open area (street, alley, side yard of at least 25 feet (8 metres), rear yard, etcetera) from at least one room. It is interesting to note that there is no similar requirement for residential buildings in C3 areas, implying that certain "livability" standards are deemed to be less applicable in the mixed-use downtown.

Siting Requirements

Setback requirements in San Francisco have the general objective of ensuring that new development fits with its surroundings. For example, the front yard setbacks for a property in an R district is determined by taking the average of the two adjacent front yards. Hence, rather than setting arbitrary requirements, the City focuses instead on streetscape continuity.

Generally, in the RC districts, rear yards must have a depth equal to 25 percent of the total lot depth, with the minimum rear yard being 15 feet (5 metres) deep. However, it should be noted that each of the special use districts has its own standards, which are intended to continue existing development patterns.

Side yard setbacks requirements also vary by district. In many cases, "stepped" side setbacks are required, in order to "preserve openness to the street and sky, and to avoid the perception of overwhelming mass created by a number of tall buildings built close together". For instance, in the C3 districts, if the height of a building is less that 1.25 times the width of the street it fronts onto, then the required side yard setback is 15 feet (5 metres). Buildings (or portions thereof) between 300 and 550 feet (91 and 168 metres) must be set back according to a sliding scale, which increases from 15 to 35 feet (5 to 11 metres), as building height increases.

It should however be emphasized that exceptions to all setback requirements are possible through the permit review process, as outlined below. In fact, setbacks are for the most part determined on a case by case basis, through permit review, since almost all significant new developments trigger this process.

5.7 Special Zoning Tools

Permit Review

The San Francisco zoning code provides for a "permit review process", which, according to City planning staff, is their second crucial development control tool (in conjunction with the height and bulk system used to control built form).

This permit review process comes into play for virtually all new developments of significant size, and is used by the City to achieve additional control over built form and neighbourhood impact. For instance, during the permit review process, the building's siting, orientation, massing, facade treatment (including concerns regarding proportion, scale, setbacks and materials), cornice, parapet and fenestration treatments, and roof design can be negotiated. Further considerations include affect on views and view corridors, shadowing of sidewalks and open spaces, openness of the street to the sky, ground level wind currents, maintenance of the predominant street wall, pedestrian circulation systems, location and treatment of public spaces, and quality of the living environment in new residential buildings, with specific regard to unit sizes and the provision of open space for residents.

Planning staff note that this is a highly discretionary negotiation process, which has been very successful to date because the City's residential market has been very strong. The City derives much of its power in this process from the fact that most new mixed-use development is occurring in the special use areas, and thus triggers the City's "conditional use" provisions, which simply have the effect of automatically making the development subject to permit review.

Large Site Developments

San Francisco uses a "Planned Unit Development" system for "projects on sites of considerable size, developed as integrated units and designed to produce an environment of stable and desirable character which will benefit the occupants, the neighbourhood and the City as a whole. In cases of outstanding overall design, complementary to the design and values of the surrounding areas, such a project may merit a well reasoned modification of certain of the provisions contained elsewhere in [the] Code". Sites must be at least 0.5 acres (0.2 hectares), and are required to be in one ownership or be the subject of an application filed jointly by all involved owners. City planning staff indicate they have found this process to be effective in achieving public benefits such as consolidated open spaces, and improved pedestrian systems.

Small Site Developments

In certain special use districts, the Code sets maximum lot sizes for redevelopment purposes. Specifically, in order to preserve the existing "fine grained" character of certain streets, the City has attempted to protect against developers assembling contiguous lots for the purpose of large scale developments.

5.8 Conclusion

In summary, while San Francisco has all three forms of density control -- specifically, FAR, an uph equivalent, and built form envelope control - the built form system is the key operative tool. Of further note, San Francisco appears to achieve most of its public objectives in new development projects through discretionary negotiations which take place through the permit review process.

San Francisco actively encourages mixed-use. In their downtown commercial districts they have been successful in achieving some new residential developments in recent years. However, the achievement of such residential uses in these commercial districts has tended to be variable over time, as a result of changing market trends. This variability is due to the fact that commercial and residential uses are permitted to be built to equal densities in these districts, hence the development industry simply produces whichever is more profitable at a given time. City staff are currently evaluating the possibility of introducing incentives to make the development of residential uses in these districts more constant over time. Such incentives might take the form of permitting residential building exemptions which would not be available to commercial projects.

6. VANCOUVER

6.1 General Description

The City of Vancouver has two forms of regulating land use: the District Schedule, a form of zoning which is formal and prescriptive, and the Official Development Plans for comprehensive development districts, which are descriptive and discretionary.

The District Schedule lays out the permitted and conditional uses and the regulations applying to the uses. Examples of districts which contain mixed uses, but which are primarily medium and high density residential areas, are the RM-5 and RM-6 districts. These districts jointly cover the West End.

In the case of comprehensive development districts, however, the zoning simply requires that a development permit be obtained before development may occur, and that the development must be in conformity with the Official Development Plan. Permitted uses are laid out for each sub-area, but most other aspects of development are negotiated with the help of design guidelines.
Each district has either a District Schedule or an Official Development Plan applying to it, but not both. In the following discussion, therefore, reference will be made to both zoning and official plan documents interchangeably.

A number of areas in Vancouver have a mixed-use nature that can be analyzed and compared with mixed-use areas in Toronto. In particular, the Downtown area, the West End and certain of the "comprehensive development districts", such as the Downtown District, False Creek North, Coal Harbour and Granville Slopes areas.

It is a goal of the Downtown District plan that housing be encouraged. This is accomplished through a bonus system which varies depending on the sub-area to which it applies. The system caps commercial development, but permits additional density if that density is used to create residential units.

To date, development in the downtown area has tended to be high-rise condominiums which are very much in demand, according to market surveys. In the Downtown District, family housing is welcomed but not encouraged through the zoning. Special city-wide guidelines deal exclusively with the provision of family housing at high densities. Family housing is required, however, in some of the other comprehensive development districts.

In recent reviews of the housing goals, City planners have decided to improve on existing development by changing the livability and built-form standards. The current thinking is to increase the number or residential districts and decrease mixed-use areas.

The City of Vancouver planning staff do not use their plans or zoning controls as a means of predicting or monitoring housing needs in an area, but rather use studies or other methods instead.

6.2 Districts

Mixed-use zoning does not occur within areas covered by the District Schedules, although multi-family residential zones permit other uses, usually subject to a conditional use permit. In the comprehensive use districts, however, various uses are designated on a map, with the permitted amount of residential, office and other uses specified. Either a floor space ratio (FSR) or a maximum gross floor area for an entire sub-area may be specified.

With regards to the mixing of uses on a site or in a building in sub-areas of the Downtown District, there is a limitation on the allowed amount of non-residential FSR, but extra density is permitted if residential uses are included. For example, non-residential uses at up to three times coverage might be allowed in an area, but if residential uses are included, another 2 times coverage is permitted for this purpose. In all such cases, residential uses may be substituted for non-residential uses, but there is a top limit of 3 times coverage. Despite this incentive, the bonus has not been sufficient to encourage mixed uses except during recent boom years. Developers have made it clear that they do not like mixing uses within a building and there are proposals to modify the system. City planners are considering the creation of more residential-only districts in the Downtown District in order to encourage housing.

In other districts, there are indirect limitations to density which occur by restricting commercial uses to the second floor and below of a building. In general, street-related retail uses are encouraged, although the comprehensive development districts do limit the floor area which may be devoted to retail uses.

6.3 Density Requirements

Two methods are used in determining density in Vancouver. Like Toronto, Vancouver uses a floor space index, known there as the floor space ratio or FSR. In the RM-5 and RM-6 districts, and the Downtown District the FSR system is used. The Downtown District is divided into sub-areas, each of which is assigned its own floor space ratio.

In some other comprehensive development districts, there is a combination of a cap on the total floor area over the entire district and an FSR limit for sub-areas of the district. For example, a total floor area is assigned in the Southeast Granville Slopes Development Plan, which may be varied by up to 20 per cent on an individual site, so long as the total floor area is not exceeded and the floor area ratio for each is met. The reason for this variation has to do with the possibility for undertaking comprehensive planning afforded by the fact that the district is under single ownership. The overall FSR is assured in these plans, but may be varied on a particular site, where views of the water or other design objectives are desired.

Bonuses in the FSR are allowed under certain circumstances, such as for open space and recreational facilities.

In still other comprehensive development districts, there is a maximum number of residential units permitted in the district (somewhat like the units per hectare approach) combined with a total permitted floor area for each different land use allowed per sub-area of the district. For example, in the draft Coal Harbour Development Plan, there is a "basic residential allowance" of 1,850 units for the district, limited at a floor area of 206,000 square metres. Beyond this, there are bonuses provided for the provision of rental units, with a limitation to the total bonus permitted.

The City By-law stipulates a minimum unit size of 400 square feet (37 square metres) for residential developments. It has rarely been the case that developers wish to build units this small, except perhaps in the case of assisted units, in which case there is a permitted relaxation of the standards. Since this is the case, it is generally not felt that the FSR system has a bias towards small units.

6.4 Amenity Space

Public Open Space

The RM-5 zone has requirements for the provision of outdoor space for multiple dwellings (400 square feet (37 square metres) at a minimum). In the RM-6 and Downtown District, there are no open space requirements, although, should it be provided, there are design guidelines which should be followed. In some comprehensive development districts, specifically the single ownership districts, the open space requirements are much more specific. Plots of land are identified and required to be conveyed to the City without cost.

According to a City of Vancouver planners, the requirements for park space are based on a city-wide park standard of 2.57 acres (1.0 hectare) for every 1,000 residents.

Private Open Space

As an incentive to provide outdoor residential balconies in the RM-5 and RM-6 zones and most of the comprehensive development districts, they are excluded from the definition of gross floor area for the purposes of defining the floor space index. As well, in some districts, enclosed balconies may be excluded from the definition, subject to certain conditions and size limitations. The City's balcony enclosure guidelines assist planners and developers in determining the type of balconies which are subject to the exclusions.

Recreational Space and Facilities

There are no general recreational space requirements for residential development in the City of Vancouver. However, there are some clauses within the District Schedules and Official Development plans that are meant to encourage the provision of public and private (i.e., for the benefit of the residents) facilities.

Also, in many zoning districts, where social, cultural or recreational facilities are required, the Development Permit Board may grant a development permit which may increase the FSR of a building (i.e., a bonus of up to 10,000 square feet (929 square metres) or an FSR = 1 may be given, depending on the situation) to permit the inclusion of the facility. Facilities are allowed based on a list of City needs in a subarea.

Under these conditions, the space must be transferred to a public agency through a registered agreement. Usually this means that the City owns the space and a non-profit corporation will program it.

Additional incentives apply in the Downtown District. There, FSR exemptions are possible for interior public spaces under certain conditions, such as the space being dedicated as a public right-of-way. As well, ancillary facilities of a social or recreational nature may be excluded from the calculation of the floor area ratio, subject to size limitations. This is not the bonus which is discussed above and is only available as an incentive in the Downtown District.

In other comprehensive development districts under single ownership there are some very specific requirements for the provision of recreational facilities, just as there are specific open space requirements. Facilities such as schools, community centres, day care centres, multi-purpose rooms and libraries must be provided, but are excluded from any floor area calculations and site coverage limitations. These tend to be in the neighbourhoods that also have a requirement for the provision of a certain percentage of social housing.

6.5 Social Housing

There are few requirements for housing for seniors or other special groups in the City as a whole. Parking standards differ, but the main difference has to do with the notification and appeal procedures. In the Downtown District, approvals for special needs housing is entirely discretionary, with the decision based on how well the proposal meets design and livability criteria. A new proposal to revise the Downtown District zoning, however, may permit a bonus for the provision of single occupancy residences in certain areas.

On the other hand, some of the comprehensive development districts have laid out goals for family and social housing. In these plans, a percentage of all residential units must be for such families and, of this percentage, a percentage of units must accommodate what the City of Vancouver has defined as "core-area needy families". A mix of dwelling units is defined within the plan to cover these requirements.

Negotiation of the requirements was possible since the districts in question are each owned by one developer.

6.6 Urban Design and Environmental Requirements

There does not seem to be an underlying series of urban design or environmental requirements which apply to development in the City. However, the multi-unit residential districts and the comprehensive development districts all address urban design and environmental concerns in some fashion.

In both the RM-5 and RM-6 districts, there are controls over impinging on the sunlight access of surrounding development, which effectively create a building envelope. (A proposal exists to extend these controls to the Downtown District as well.) There are also acoustic standards which must be met. Design requirements are minimal and vary to some extent between the districts but require, for example, that mechanical equipment be enclosed and made invisible from the street.

The requirements and guidelines for the comprehensive development areas are more detailed, and deal with such matters as views, building orientation, size of development, relationships with the public realm (i.e., requires that urban design plans for public areas be produced), recycling and energy conservation. In one case, there are massing constraints such as setbacks and build-to lines. The Downtown District has design guidelines covering such topics as open space design, views, sun and shade, wind, noise, landscaping, architecture and physical design, height and bulk. These guidelines are quite general but provide an effective basis for negotiating a desired solution.

Height Limits

Height limits affect all districts. Sometimes there is a single limit for an entire zoning district. In other cases, such as Southeast Granville Slopes and the Downtown District, height limitations vary by site parcel or sub-area. The Downtown Area height limitations are considered interpretive guidelines only, and heights may be exceeded, subject to following design guidelines. There is, however, a single maximum height of 450 feet (137 metres).

Developers have, in a number of cases, made effective arguments for changing height limits on a site by site basis. In no cases has a project exceeded the 450 foot (137 metre) maximum height limit.

Siting Requirements

Siting requirements vary by district rather than use.

In the Downtown District there are no siting requirements at all, although the downtown planner has indicated that in the new plan there will be setbacks and coverage requirements.

The RM-5 and RM-6 districts have front, side and rear yard setbacks, as well as daylight access requirements. These regulations have been put in place in the more dense residential neighbourhoods, in order to ensure a high level of livability there. In the RM-5 district only, there are also lot coverage limitations (coverage may not exceed 50 per cent of the lot area) and building envelope restrictions also apply.

In Southeast Granville Slopes, there are setbacks above a second floor cornice line and buildings are "encouraged to meet the property line". Other comprehensive development districts do not have siting requirements but may have applicable design guidelines.

6.7 Parking

Parking standards vary depending on the area and on the size of the residential unit provided. They are not reduced in the downtown area.

6.8 Special Considerations

Process

It must be clear from the above discussion that the single ownership of two very large portions of the downtown - Coal Harbour and False Creek - and the necessity for both properties to get a rezoning has given City of Vancouver planners a strong basis for negotiations. In addition, there are some other factors that planners feel have contributed to the success of recent zoning efforts. In the course of developing new comprehensive development plans, the planners stay in constant contact with City aldermen by holding bi-monthly workshops. Policy on density, environmental concerns and recreation facilities is developed and approved by Council before the remainder of the plan is created. This facilitates and provides a stronger basis for negotiating the zoning with developers afterward.

Large and Small Lot Zoning

In most areas of the city, procedures for development are the same regardless of the size of the project. The West End zones, however, have a special bonus system which applies to it, so that additional density and height are permitted on larger lots. A proposal exists to extend this bonus system to the Downtown District.

6.9 Conclusion

The City of Vancouver has both formal zoning and discretionary comprehensive development plans. Each district in the city has either one or the other, but not both. Housing is encouraged in the downtown through a bonus system which caps commercial development, but permits additional density for residential units. In order to further encourage residential development, the City is considering changing some mixed-use districts to residential districts.

APPENDIX IV

APPENDIX IV

CASE STUDY BUILDINGS

In order to obtain an understanding of the implications of existing residential development regulations in Toronto, we undertook an analysis of 11 buildings built since 1976.

A large number of potential case study buildings were initially identified between City staff and the study team to ensure that the case study sample would provide representative examples of buildings with characteristics such as: high or medium density; include both a commercial and residential component; social housing; etc. Through discussion with staff following a preliminary analysis, the list of buildings was revised until the following were chosen for detailed examination:

Bloor Street south to Charles Street

1. 1132 Bay Street

Bay Street Corridor North

2. Polo I (1055 Bay Street)
3. Polo II (1033 Bay Street)
4. Queen's Park Condominium (62 Wellesley Street West)

East Downtown

5. Market Square (80 Front Street East)
6. 70-92 King Street East

North Downtown

7. Cityhome (112 Elizabeth, 111 Chestnut)

Carlton Street

8. The Lexington (45 Carlton Street)

Harbourfront

9. One York Quay (77-99 Harbour Square)
10. 350-390 Queen's Quay West

Community and Neighbourhoods West Section

11. One Park Lane (280 Simcoe, 195-211 St. Patrick, 175 Elm)

The initial project description and planning control information for each building was extracted from City of Toronto reports, the Zoning By-law and the Official Plan. Several site visits provided detailed information on each building's physical form, relation to context, open space and recreational facilities. The actual built dimensions, densities, unit mix and population breakdown of each building were taken from data provided by the City's Planning and Development Department. It should be noted that the densities taken from the City's data represent the total above grade floor area and do not represent densities as defined by the City's Zoning By-law.

After all the information was gathered and compiled for each building, it was set out in chart form. These charts are included in this appendix following an analytical summary report. The analysis was instrumental in formulating hypotheses and conclusions about residential development in mixed-use districts in the Central Area.

The following issues have emerged from our review of the case study buildings. This report has been organized according to four main issues relating to mixed commercial-residential development in the downtown: mixed-use, density, relations to context and open space and recreation, which stem from the hypotheses proposed in the Problem Statement. In some cases, they suggest additions to the hypotheses presented in the Problem Statement and topics for additional issue-related research.

1. MIXED-USE

Summary

- Residential development downtown has diversified this predominantly commercial and institutional district.
- Few of the case studies are intensively mixed-use. While most contain at least some retail, (and several contain extensive retail), only two contain any office use. None contains institutional uses.
- Single-use residential buildings sometimes have difficulty in responding appropriately to intensively commercial and/or retail contexts. In many cases, suburban high-rise building types have been used, creating inappropriate conditions at grade.
- The most successful high-rise examples are mixed-use buildings that have a retail/office base of three or more floors with a tower or slab set back above it. This building type meets several objectives simultaneously: it locates uses in relation to their degree of "publicness"; it offers a lower building mass to give appropriate spatial definition and continuity to the street; and the setback ameliorates excess winds generated by the high-rise component and offers the possibility of space between high-rise buildings to private light onto the street and sky views from it.

Additional Hypotheses

- Intensively mixed-use buildings should be encouraged in areas that are currently commercial or mixed-use.
- Residential at grade should be restricted to streets that are already residential at grade.

Further Research

- Find other examples of intensively mixed-use buildings.
- Analyze why certain buildings are more mixed-use than others. Include analysis of economic feasibility and location variations. What are the criteria of this? Are they long-term or short-term?
- Identify precincts where predominantly or exclusively residential is appropriate.

Detailed Discussion

To build residential in the downtown is to increase the mix of uses in what has been a predominantly commercial district. At the scale of the district, the street or the block, the question is not "to mix or not to mix", but rather, how to accommodate mixture in the most appropriate ways. Except for the two waterfront sites, all the case studies are located in areas that already have a mixture of commercial, retail and residential. In some cases, there are also institutional uses.

Except in the context of an area that is already predominantly residential high density, the questions are really whether it is better to mix uses in the same building or to employ groupings of single-use buildings, the degree or proportion of mix, and the location of uses on the site.

All the case study buildings are part of mixed-use developments, although not all buildings are mixed-use. In all cases, the major use is residential. One Park Lane and One York Quay tend towards single use. Polo Club, and 1132 Bay Street are the only ones that mix residential, office and retail in the same building. Market Square, Polo Club, 1132 Bay Street, 350-390 Queen's Quay, the Lexington and 92 King Street East all have a significant amount of retailing at grade. (7 out of 10)

Uses are separated either vertically on separate floors (retail at grade; office at grade or in lower levels; residential above) or in plan (in separate buildings or parts of buildings). Office and residential have separate lobbies, although the Lexington appears to use only one for both.

Few of the case studies are intensively mixed-use buildings. Market Square has retail at grade, with residential above, in an intensive retailing district. 111 Chestnut Street does not include retail, however, it includes offices in a context where retail does not already exist. One York Quay is almost exclusively residential, with only a very minor component of retail. In the context of waterfront development, additional retail should be possible and would certainly be desirable. 350-390 Queen's Quay will include a significant component of retail when finished. In both of these waterfront developments, the absence of office components is striking.

One Park Lane and 92 King Street East are developments that include separate residential and commercial buildings side-by-side. At 92 King Street East the residential component is located above one floor of retail, and is separated from the commercial building by a narrow pedestrian route. The residential units face King and Church Streets and a courtyard on the north side; end units have some windows facing the commercial building. There are no apparent problems in this relationship. While this project includes publicly accessible open space near grade, the area is small, ambiguously public/private and located on the north side of the building. The side-by-side development of residential and commercial raises the question of how open space is to be used (should there be open space for the exclusive use of the residents?) and where it is to be located. In projects that combine residential and commercial in the same building, there is greater potential to provide common open space for residents at a low roof level and public open space at grade for use by office workers and the public.

At One Park Lane, locating the residential and office functions in separate buildings has resulted in:

- an entry courtyard to the residential buildings that faces the rear service area of the commercial building
- residential units at grade that place "backyards" on the street

- residential units at grade that face onto Simcoe Street and rear service sides of high-rise buildings on University Avenue. While residential units at grade may be acceptable on St. Patrick Street, which includes low-rise churches and other buildings, they are inappropriate along Simcoe Street which is used as a service street for University Avenue buildings.

Queen's Park Place illustrates another kind of problem related to adjacency of different uses. This is a predominantly residential building with a minor commercial component at grade. The problem is the result of the adjacent high-rise office building that preceded this development and that has windows over the entire elevation. It is only a few metres away from the property line between the two properties. The construction of Queen's Park Place has effectively blocked off many of these windows.

Buildings such as 1132 Bay Street and Polo II demonstrate the advantages of locating residential units on top of a commercial base. The commercial base accommodates non-residential uses that are more appropriate to grade or near-grade locations. It also serves to give appropriate spatial definition to the streets and to provide the opportunity to set back the residential high-rise component in order to ameliorate wind and light conditions. At the same time, these commercial uses can give the building a greater sense of extroversion and animation along the street.

2. DENSITY

Summary

- The case studies have all contributed to the ongoing densification of the downtown. This process is reducing the extreme range of densities that has been characteristic of the last twenty years during which the older low-rise fabric continued.

- While it may be desirable to preserve some low-rise streets or individual buildings, it is neither necessary nor desirable to require new low-rise buildings as part of a high-density development. This serves merely to aggravate the problems associated with the high-rise components of such developments. To respond to the densities currently allowed, buildings should be medium to high-rise (see also item 3).

- Many of the case studies appear to be too dense. For some, the constraints of their lot (shape and dimension) preclude the achievement of appropriate building form at the given densities. The relationships between density, building form, and lot characteristics need to be studied. For others, the density has generated buildings that are of such a height that their repetition (their extrapolation into an urban fabric) would result, or has resulted, in an "unlivable" environment.

- ○ A mix of unit sizes has resulted in the building case studies. In fact, most of the buildings have at least three different unit sizes. Since this mix has resulted without unit size regulation, the choice should be left up to market demand.

Additional Hypotheses

- ○ There should be limits to density in relation to the shape and dimensional constraints of the property and in relation to the desired character of the street(s) in order to preclude building forms that cause environmental and urban design problems.

Further Research

- ○ Prepare alternative urban designs for the case study sites that test the limits of appropriate density.

Detailed Discussion

2.1 Range of Intensities

Although some of the case studies combine low and high-rise buildings, the densities over the site are generally high (over 6 x). This confirms that a process is underway whereby densities in the central area are becoming consistently higher, rather than retaining the current range. For a discussion about the range of building forms, see section 3.1.

2.2 Small Sites

1132 Bay and Queen's Park Place are small sites. The former is a relatively good example of how a small site can be developed at high density. The latter has problems (excessive setbacks and vehicular driveway/drop-off undermine street relation) which are not a result of the lot size but rather of the use of a suburban mode.

While Queen's Park Place is, in some ways, not an appropriate model for an urban site, it respects the party wall condition of its lot and does not adversely affect its neighbours. (The fact that it blocks windows of the office building to the east is a result of the inappropriateness of the office building form, which failed to acknowledge the party wall condition of its lot.)

1132 Bay is virtually extruded from its site vertically, which raises the question of its repeatability on adjacent sites. It depends on the open space provided on the adjacent site to the west. If this building form were repeated, it could result in poor conditions of mid-block open space, and, consequently, of poor light and ventilation for many of its residential units.

2.3 Density Limits

The example of One York Quay raises the question whether there should be absolute limits to density and building height. The Harbour Square Complex is now one of the most inhospitable parts of the city. The buildings are overwhelming in scale, offer very little for public use at grade and create unpleasant pedestrian environments.

The principal of limiting density in relation to the density of the surrounding neighbourhoods should be reinforced and developed with reference to both street character and block dimension.

While The Lexington, Polo Club, One Park Lane, and 111 Chestnut Street all appear to have reasonably sized lots, the resulting building forms have significant urban design problems. Studies of alternative massing for these sites suggest that these problems are a result of the dimensional and configurative constraints of the lots. Given these constraints, the densities cannot be properly accommodated.

2.4 Unit Mix

There is an almost even split shown in the building case studies as to unit sizes. Half of them provide mostly two bedroom units, and the other half mostly one bedroom units. Some offer 3 bedroom units and/or bachelor units as well.

There are no regulations governing unit size or mix; a mix of all unit sizes has nevertheless resulted, and only one building offers only one size (1132 Bay - 25 two bedroom units). In fact, most buildings offer at least three different unit sizes.

Unit size and mix should, therefore, not be regulated.

3. RELATIONS TO CONTEXT

Summary

- Most of the case study buildings do not relate appropriately to the streets on which they are located. Some are introverted, do not face the street, have entrances in obscure locations and private driveways. Many have excessively tall and continuous street walls that create a "canyon" effect on the street and microclimate problems. In cases where public or semi-public open space is created at grade, the design of these spaces is often poor.

- In the context of intensification and urban consolidation, an important measure of the suitability of a new building is the repeatability of its form. The repetition of a proposed building must be able to create an acceptable urban pattern.

- There is a deficiency of medium-rise buildings.

- The fact that most of the case studies exhibit significant contextual, urban design and environmental problems suggests that there have been inadequacies in the development review process. The absence of standards for microclimate assessments is a critical deficiency. Similarly, the assessment of urban design requires more explicit standards and expectations by the City for the contribution that specific sites can make to the larger urban fabric. In the context of intensification and urban consolidation, the assessment of the urban design impact of a proposed building requires a clearly articulated urban design plan or vision for the street and the district. Without such a plan, the measure for evaluation appears to be insufficiently clear, inconsistent and ineffective.

Additional Hypotheses

- The proposed building form should be repeatable on adjacent sites in such a way as to create an acceptable urban pattern on the street, on the block, and in the district.

- Medium-rise building forms should be encouraged to avoid extremely tall buildings and to ameliorate the transition from existing low-rise to new high-rise forms.

- High-rise buildings should not be permitted on sites that are too small or too tight to achieve environmental and urban design standards.

- Street walls should be limited in height (with mandatory setbacks above a certain height in relation to the width of the street) and/or in continuity. Continuous high-rise slabs parallel to streets should be discouraged.

- Vehicular driveways, private roads, drop-offs and short-term parking at grade should be prohibited.

- The main entrances to residential buildings should be located on the most major street frontage.

- There should be minimum requirements for open space in mid-block to ensure adequate conditions of light and air between buildings.

- The building form on specific properties should be consistent with the City's urban design vision for the area. Such a vision should include the structure and character of public spaces and built form at the level of the surrounding area as a whole and at the level of specific streets and blocks.

Further Research

- Examples of district or area urban design plans/visions.

- Extrapolation of urban pattern from case studies.

- Examples of good treatment of vehicular drop-offs.

Detailed Discussion

3.1 Streets and Neighbours

The relationship of the buildings to streets is often poor. Building groupings are sometimes introverted, with private driveways, obscure entrances, excessive setbacks, or backyards to the street. Also, there are many instances of excessively tall and continuous street walls that cause microclimate problems on the street and are visually oppressive.

The relationship of the buildings to adjacent properties is usually acceptable. However, there are some instances of excessive overshadowing and proximity. The northern-most building of One Park Lane is very close to and overshadows the co-operative housing at the north-west corner of the block. As well, the commercial property at the northeast corner of the block, which was not consolidated as part of One Park Lane, is too small and dimensionally constrained to offer a good opportunity for redevelopment.

Similarly, the property at the corner of Carlton and Church, which was not incorporated into the Lexington, is now too small to develop at comparable density. As well, if this parcel had been included for the Lexington, there would have been a greater potential to achieve a more successful urban design for the block.

1132 Bay has a party wall condition as its northern property line. While this does not adversely limit the development of the adjacent site, it does raise the question about how tall a continuous street-wall should be. On its western property line, the building faces a private service lane, which limits future development of this lane.

Amongst the case studies, there is a clear deficiency of medium-rise buildings. Only Market Square is medium-rise. However, there are several cases where larger sites have included low-rise (3-storey) and high-rise, without medium-rise. In these cases, the high-rise portions display urban design problems. This mix of extreme high and extreme low is not desirable. Medium-rise buildings are more effective for street relations, and microclimate conditions for pedestrians.

Most of the case studies exhibit significant contextual, urban design and environmental problems. This suggests inadequacies in the development review process. Specifically, the absence of standards for microclimate assessments and the absence of more comprehensive urban design plans for entire streets and neighbourhoods has led to the acceptance of projects whose densities and building forms may be undesirable environmentally and do not contribute in a positive way to the creation of an amenable urban fabric.

3.2 Environmental Conditions

On five sites there are east/west slabs that significantly overshadow either their own open space, that of neighbouring buildings, or public spaces.

On nine sites there are significant portions of high-rise buildings without setbacks/base/podium, which generate excessive winds at grade, problematic entrances and produce a visually overwhelming built form.

3.3 Standards

The case studies are part of an ongoing process of densification in the downtown. In this context they reveal significant shifts in standards for land use, density, bulk, parking and open space. While they are predominantly residential, their minor components of retail and commercial uses indicate a shift to mixed-use that benefits both residents and neighbours. The higher level of densities have been accompanied by below grade parking, which is appropriate to the downtown. However, they have also generated buildings that are substantially bulkier than the buildings they replaced and that create dark, windy and often inhospitable streets and open space. Standards for the urban design of streets and open spaces need to be developed to protect the livability of downtown. The development of such urban design standards will need to be done in relation to the characteristics and urban structure of the streets and neighbourhoods of the downtown.

Publicly accessible open space has been created as mid-block routes, landscaped courtyards, plazas, or water's edge pedestrian routes, and arcades. These vary in their degree of publicness. They generally benefit the surrounding neighbourhood.

Privately shared open space sometimes provides visual benefits to neighbours and the public by their planting and the views through or between buildings that they afford.

In all cases, there are major public open spaces in the existing neighbourhood.

3.4 Parking

In most cases, parking is located below grade. In the two sites along the waterfront, it is accommodated in six storey structures above grade, which are overly exposed to the streets.

In several cases, parking access overwhelms entrances to the building, pedestrian routes and landscaping. Private driveways, drop-offs and parking at grade should be discouraged.

Eight of the ten sites are close to subway stations. The two exceptions are on the waterfront where a new LRT line has recently opened. All sites are also served by streetcar or bus.

4. OPEN SPACE AND RECREATION

Summary

- ○ The case study buildings have generally provided only residual open space in the form of suburban setbacks and vehicular drop-off areas.
- ○ Residents appear to prefer meeting space to expensive athletic facilities.
- ○ Children's recreational needs are not being met.
- ○ Open balconies are generally not provided.
- ○ The enclosed balconies have been converted to living space.

Detailed Discussion

4.1 Public Open Space

The most successfully planned public open space is that of Market Square. It has clearly marked entrance points, forms a pathway from one landmark to another, and is made lively by street-related retail along its path. Furthermore, the terraced medium-rise and medium density buildings on either side of the courtyard allow for sunlight and do not overwhelm the pedestrian. The plaza in front of Polo II is also an active space, enclosed by the building's podium with retail at grade.

Several projects used an extensive amount of space at grade for private driveways, entry courts and vehicular drop-offs. In this space, there is consistent conflict between vehicular and pedestrian traffic, with vehicles dominating. These spaces are usually landscaped for visual benefit only; they are not used for recreation, are usually residual in character and do not serve the role of mediating between the building and the public street.

Other projects left minimal amounts of space. At 111 Chestnut, for example, the open space is not effective, due to its residual spatial character and unpleasant microclimatic conditions.

Other than Market Square and Polo II's front entrance, the building case studies offer very little publicly accessible open space that is not, in some way, residual. The suburban setbacks, ambiguous spaces and vehicle drop-off areas of most of these buildings constitute the only public open space offered.

4.2 Shared Recreational Space

In complying with the By-law to provide the required amount of shared recreation space, developers have offered a range of amenities depending on the building type, and these amenities receive varied levels of use. The more expensive condominium developments offer swimming pools, saunas, whirlpools, exercise rooms, squash courts, billiard rooms, sundecks, roof top terraces, elegant lobbies and meeting/party rooms. According to building managers, they are used regularly by only a small number of the residents.

The provision of these facilities raises substantially the building cost and consequently the price of the unit, and their continuous and ever increasing maintenance raises the condominium fees. Since only a small number of residents, in effect, use these services, and the City provides such services from municipal taxes, these services should not be doubled by the developer. Those residents who wish to have exclusive facilities have the option of private clubs, which the developer could provide as such if he wishes to offer this luxury to his clients. However, all residents should not be obliged to pay for it.

The more moderately priced buildings such as 350-390 Queen's Quay and 111 Chestnut offer much less: small meeting rooms and exercise rooms, void of any equipment, which are locked up and unaccessible to the residents, and barren roof top terraces which are minimally landscaped. 350-390 Queen's Quay also has a sauna in each building. These spaces are little used, although tenant committees express their wish to have better access to the meeting rooms.

The most regularly used spaces in all the buildings seem to be the lobbies, the laundry rooms, and the adequately sized meeting/party rooms which are made accessible to the residents.

Of the eleven buildings studied, only 111 Chestnut and 350-390 Queen's Quay showed significant numbers of residents under the age of 20 (111 Chestnut had 38 percent and 350-390 Queen's Quay had 24 percent). They are also the only two buildings which offer a large component of social housing.

However, the recreation space for children in these buildings is inadequate for safe and healthy play. The indoor space is small, in the basement and not accessible to the children, so they play in the corridors. The outdoor space at 111 Chestnut is a paved surface on top of the parking garage wedged between the residential tower and the office space at 112 Elizabeth. This space receives no direct sunlight, and both residential and office units look directly onto it. At 350-390 Queen's Quay, the children's play area consists of a minimally landscaped and equipped surface above a parking garage directly across from the Gardiner Expressway. This area is easily accessible only from one of the two buildings.

The recreation space of the co-operative building in the Polo I project appears to be much more successful. The building's low height and inner courtyard permit parent surveillance of play in a safe, ground level environment.

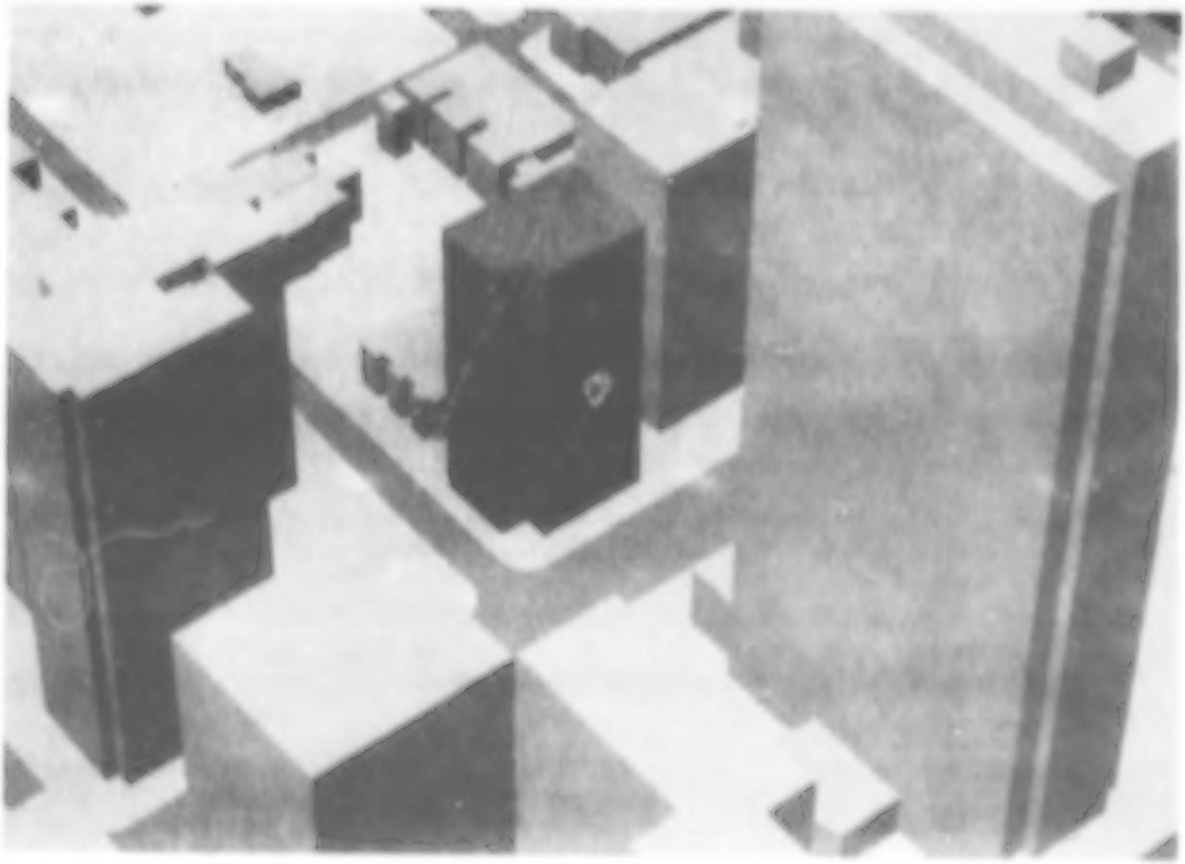
The other buildings studied offered almost nothing geared towards children's play, despite the provision of family-sized units. Some buildings had table tennis equipment set up in party rooms in order to keep the children out of the hallways (62 Wellesley Street West and One Park Lane), but no space designed specifically for young children's play.

It is apparent that families generally do not find adequate facilities to suit their recreational needs in Toronto's downtown. If family living is to be encouraged downtown, the City should ensure that buildings offer an environment conducive to social interaction and safe and healthy play. Guidelines should be put into place which regulate the location and design of recreational space and children's play space in downtown residential buildings.

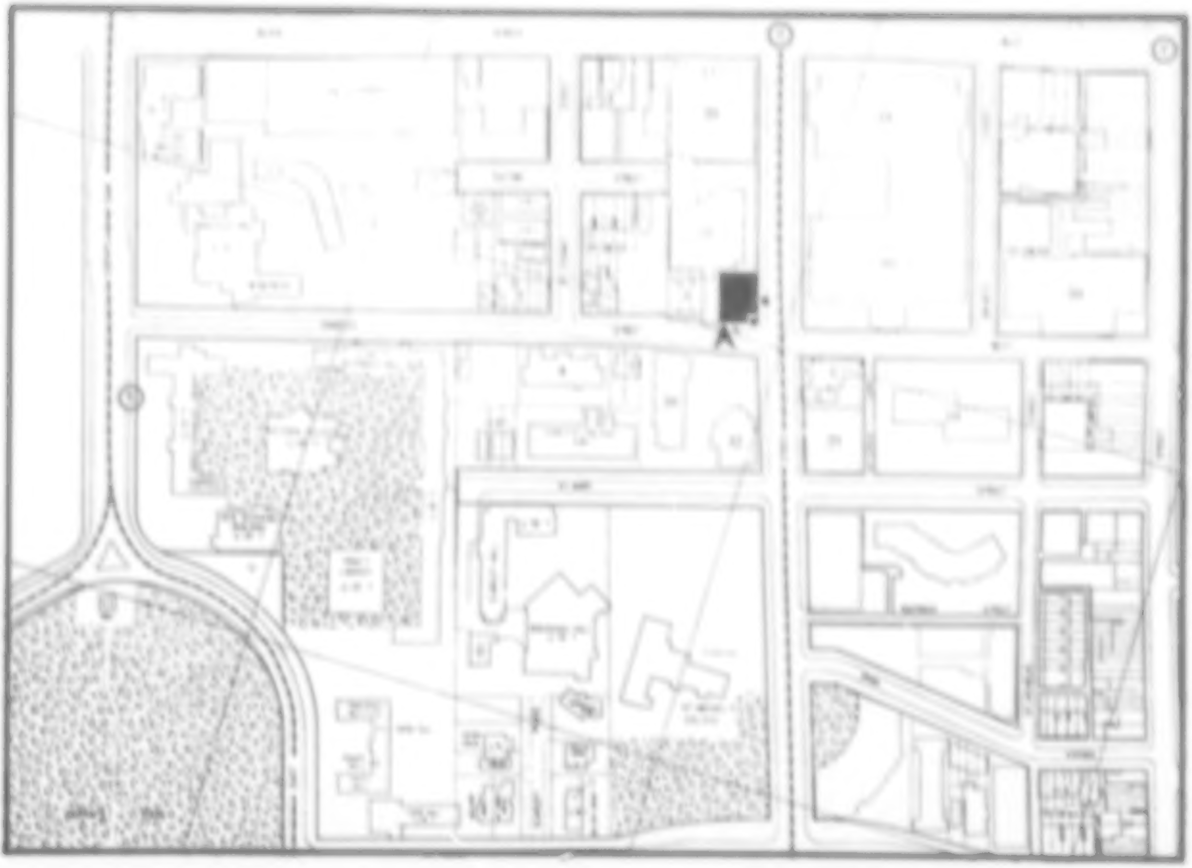
4.3 Private Recreational Space

Open balconies are not provided in most of the building case studies, but some units have low roof terraces at different levels or patios at grade for ground floor units. Enclosed balconies are provided instead, and these are often converted into living space indistinguishable from the unit.

Residents do not seem to want an outdoor extension to their living space, but prefer a larger indoor space. Balconies should, therefore, not be required, but provided by the developer as the market demands.



1132 BAY STREET



I. PROJECT DESCRIPTION AND DATA

Name and Address: 1132 Bay Street - Residential 1140 Bay Street - Commercial	Lot Area: Small 734 m^2	Frontages: Major - Bay Street Minor - Charles Street	Lot Description: Corner Party wall on north side

Neighbourhood:	East: High-rise residential commercial on Bay - lower along Yonge Street West: Low-rise University of Toronto & St. Thomas Street South: High-rise residential on Bay, low-rise University of Toronto North: High-rise office & residential - Bay/Bloor district
Project Description:	18 storey residential/commercial building having 25 units and 2,132 m^2 of commercial space (ground floor retail & 3 floors of commercial) + a health spa

Project Data

No. of Units: 25 units Tenure: Condominiums	Residential GFA: 7,112 m^2	Density	9.7
Density in UPH: 341 units	Non-Residential GFA: 2,454 m^2	Density	3.3
Average Unit Size: 284 m^2 Residents under 20 Years: 13%	TOTAL GFA: 9,565 m^2	Density	13.0

Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative) 1. High-rise 2. 3.	1.	2.	3.
	Bachelor: 1 bedroom: 2 bedroom: 25 3 + bedroom: Total 25	Bachelor: 1 bedroom: 2 bedroom: 3 + bedroom: Total	Bachelor: 1 bedroom: 2 bedroom: 3 + bedroom: Total

Total Personal Recreation Space	Proposed: "less than the required 9 m^2 per unit" for some units	
	Required:	
Total Shared Recreation Space	Provided: 408 m^2	
	Required:	
TOTAL RECREATION SPACE	Proposed: 669 m^2	Proposed Height: 8 storeys 60 m/50 m as built
	Required: 700 m^2	Permitted Height:
Landscaped Open Space (publicly accessible)	Proposed: none	
	Required: 64 m^2	Height Setbacks:
Parking:	38 spaces; 39 required	
Lot Coverage:	496/734 = 68% (inspection of site indicated a coverage close to 100%)	

2. PLANNING REVIEW

Application Type, Date and Status:	Application No. 31028 for development review		
Planning Controls			
Underlying Official Plan Designation:	High Density Mixed Commercial Residential Area		
Underlying Zoning District:	CR L4.5 U350	Mixing Formula Constant:	7.8
Underlying Height Limit:	61.0 m		
Committee of Adjustment:	Minor variance re: 40 m^2 of recreational space and for 1 less parking space than necessary		

Site Specific Zoning:

Previous approval for 25 residential units, 1990 m^2 of commercial space and 134 m^2 of retail space; 15 storeys in height

Site Specific Official Plan Amendment:

Issues Illustrated by Case Study during Planning Review

Site and Project Considerations during Planning Review (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- no concerns mentioned in report
- done with zoning by-law
- retail at grade
- 3 floors of commercial
- built right to streetwall, no significant setback above grade
- "health spa" on 5th floor for residents
- feels tight on lot

3. BUILDING SURVEY

-	Building type	L -shaped double-loaded slab - high rise
-	Building footprint	100% of site, except small setback at Bay/Charles corner
-	Location on lot	To street and property lines
-	Height (s) in floors	4 floor commercial base + 1 floor mechanical + 18 floors residential Total - 23
-	Height setbacks	Above mechanical floor on Bay - Minor Above 4th floor on Charles - Partial, very minor
■	Entrances:	
-	Building	Residential - corner of Bay & Charles - clear but low key Commercial & Retail on Bay - clear but low key
-	Parking	Off Charles Street - recessed into building envelope
-	Service	Off Charles Street - recessed into building envelope, at grade
■	Street Relationship:	
-	Building Edge	Built to street line - appropriate form & uses
-	Landscaping	Trees in sidewalk, sidewalk with brick pavers
-	Height of Ground Floor	Approximately 12 feet
-	Uses at Grade	Retail, entries, service - Okay

	Location	Extent	Design	Use	Maintenance
■ Open Space:	None				
- Public	None				
- Common	None - no balconies				
- Private					
- Parking	None at grade, no drop-off; All underground				
■ Interior Common Facilities:					
- Lobby					
- residential	1132 Bay	40 m^2 approx.		good security	good
- commercial	1140 Bay	20 m^2 approx.			
- Recreation					
sauna/exercise room/jacuzzi/ sun deck	5th floor	small		infrequent	good
- Meeting Space					
- Other					
- Non-Residential Uses	First 4 floors commercial (retail at grade, offices next 3 floors)				
- Parking	underground one level for office two levels for residences	1 space/du		good security	good
- Service	side entrance off Charles Street goes down to garage			no loading dock; movers must use main entrance	good

4. ISSUES RAISED

1. Mixed Use

This is a good example of a mixed-use building. The extent of retail and office is appropriate to the site and the building. Entrances are clearly separated and identified.

2. Density

Although the scale and general arrangement of the building seem appropriate for this part of Bay Street, the building is virtually and extension of the lot. The project includes no open space at grade, and only a minor "court yard" at its rear (facing west) above the first few floors.

As a result, this building form (and density) is not repeatable next door on St. Charles. The achievement of this density with this building form depends on "borrowing" open space from adjacent property to create amenable conditions of light, air and view for this building.

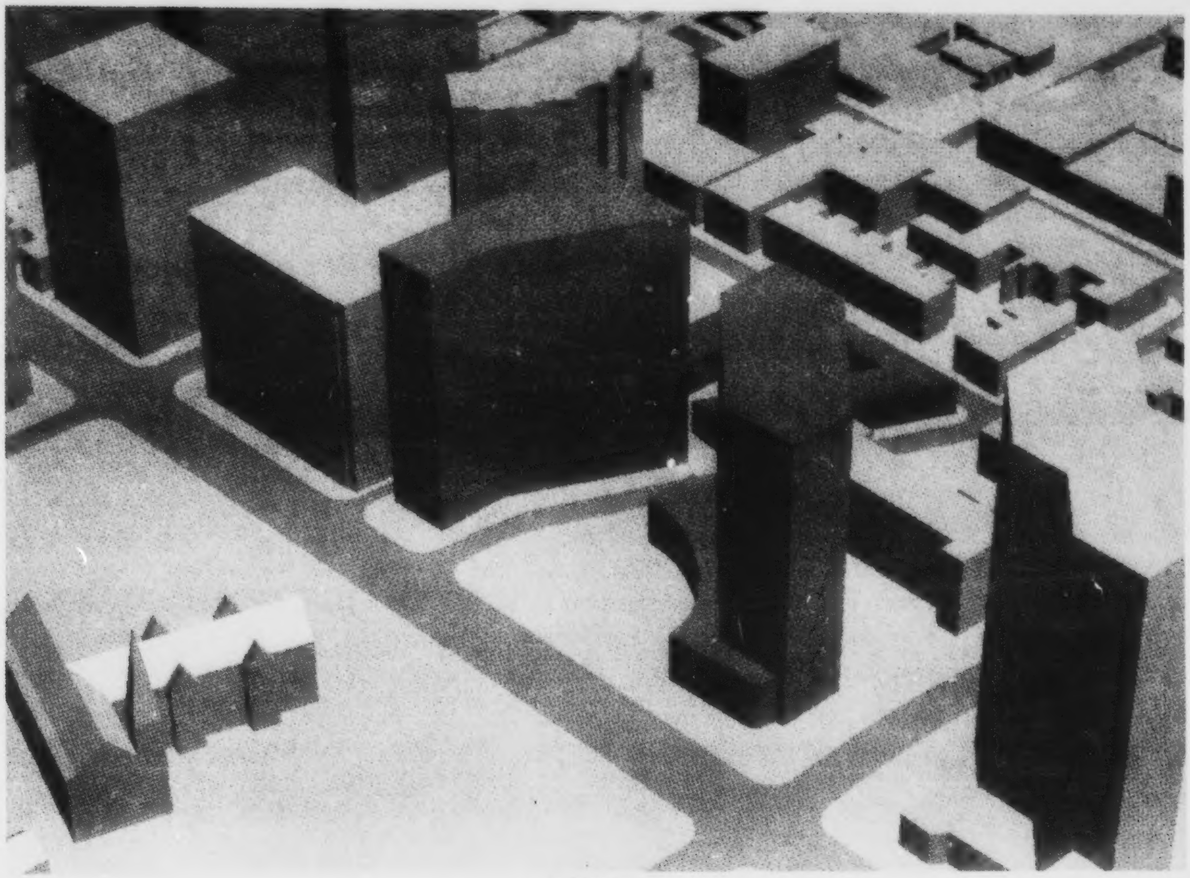
3. Context Relations

With the exception of the issue noted above (2.) the building creates an appropriate relationship to Bay and Charles Streets. The service area and parking are incorporated into the envelope of the building, the stores provide a good edge to Bay.

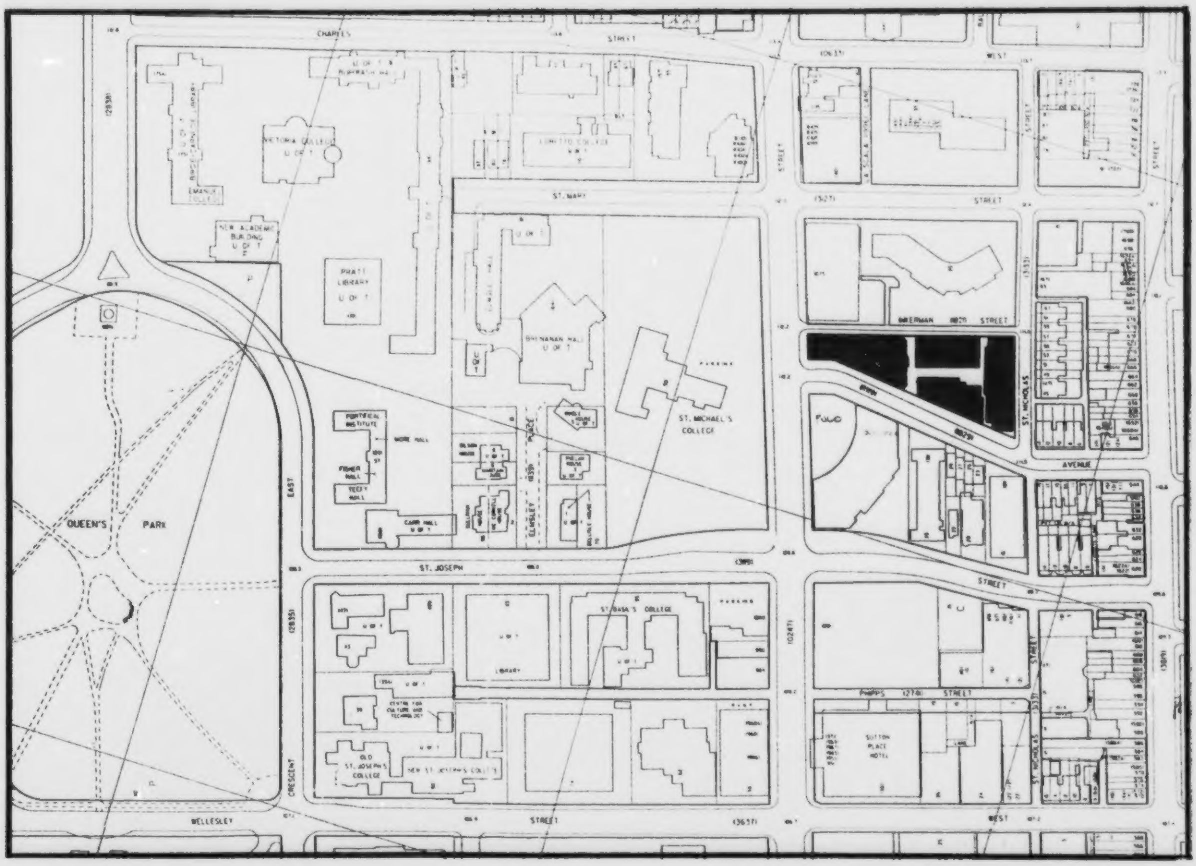
The setback above the 4th floor is also appropriate, although it should have extended to Charles Street.

4. Open Space and Recreation

There is no public open space. The common open space consists of a deck off the swimming pool.



POLO I


CHARLES
STREET
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NEW ACADEMIC BUILDING U OF T
PRATT LIBRARY U OF T
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ST. MARY
STREET
BRENNAN HALL U OF T
ST. MICHAEL'S COLLEGE
PARKING
PONTIFICAL INSTITUTE
MORE HALL
FISHER HALL
TEEFY HALL
CARR HALL U OF T
ELMSLEY PLACE
QUEEN'S
PARK
EAST
CRESCENT
ST. JOSEPH
STREET
AVENUE
ST. NICHOLAS
POLO
ST. BASIL'S COLLEGE
LIBRARY
CENTRE FOR CULTURE AND TECHNOLOGY
OLD ST. JOSEPH'S COLLEGE
NEW ST. JOSEPH'S COLLEGE
PHIPPS
SUTTON PLACE HOTEL
WELLESLEY
STREET
WEST

1. PROJECT DESCRIPTION AND DATA

Name and Address:	Lot Area:	Frontages:	Lot Description:
Polo Club I, 1055 Bay Street, 22 - 44 Irwin Street, 50 - 84 St. Nicholas Street	Medium 4,392 m^2	Major - Bay Street Minor - Irwin, St. Nicholas, Inkerman Street	One full block

Neighbourhood:	East:	St. Nicholas and Yonge Street - low-rise retail and commercial, residential
	West:	University of Toronto - low to medium-rise
	North:	Bay/Bloor high-rise residential and commercial
	South:	Bay Street - low to high-rise residential, hotel and commercial

Project Description:	22 storey condominium tower consisting of 336 residential units with roof top recreation area 30 low-rise condominium townhouse units 18 unit non-profit co-operative Small retail component, landscaped outdoor area

Project Data

No. of Units: 384	Note: GFA's from Application No 1797 for rezoning and OPA		
Tenure: Condominiums and Co-operative	Residential GFA: 30,309 m^2	Density	6.9
Density in UPH: 874	Non-Residential GFA: 855 m^2	Density	0.2
Average Unit Size:	TOTAL GFA: 31,164 m^2	Density	7.1
Residents under 20 Years: 2%			

Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative) 1. Highrise 2. Townhouses 3. Co-operative	1.	2.	3.
Bachelor:	84		
1 bedroom:	220		6
2 bedroom:	32	30	12
3 + bedroom:			
Total:	336	30	18

Total Personal Recreation Space	Proposed: approx. 810 m^2 of private landscaped yards for cooperative and townhouse (55 m^2 balcony for co-op)	
	Required:	
Total Shared Recreation Space	Provided: 694 m^2	
	Required:	
TOTAL RECREATION SPACE	Proposed: 3,465 m^2 (37,298 sq.ft.)	Proposed Height: 64.21 m with recreation facilities; excluding mechanical
	Required: 13.5% of CR portion of lot	Permitted Height 60.3 m (site specific)
Landscaped Open Space (publicly accessible)	Proposed: 688 m^2 (7,406 sq.ft.) courtyard	
	Required: 677 m^2 (site specific)	Height Setbacks
Parking: 298 indoor		
Lot Coverage: 1,843/4,392 = 42% of block		

2. PLANNING REVIEW

Application Type, Date and Status: Application 1797 for rezoning and Official Plan Amendment (approved as 328-85)	
Planning Controls	
Underlying Official Plan Designation: Residential and Mixed commercial residential area	
Underlying Zoning District: R3 Z4 and CR L1 U350	Mixing Formula Constant: 4.0
Underlying Height Limit: 12 m and 30.5 m	
Committee of Adjustment:	

Site Specific Zoning: By-law 635-82 permitted a total of 222 units within a maximum gross residential floor area of 27,963 m^2 as follows:

- 22 storey condominium consisting of 336 units
- 3 storey townhouse condos consisting of 30 units
- 3 storey co-operative consisting of 18 units
- By-law 329-85

Site Specific Official Plan Amendment:

See rezoning
Section 11.126 of O.P., By-laws 634-82, 328-85

Issues Illustrated by Case Study During Planning Review

- an increase of 162 units over that permitted in site specific OP - all of which are condominium units
- some enclosed balconies, some open terraces
- and increase of 2,346 m^2 of residential gross floor area exceeded maximum permitted in CR portion of lot
- the size of the units was decreased, so a greater number of units were put into "essentially the same building bulk" as the previous application - shift from two or three bedrooms to mainly 1 bedroom

Site and Project Considerations During Planning Review (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- recreation "club" - "Polo"
- inclusion of co-operative housing - 18 units of assisted housing
- off-site improvements to the St. Nicholas Street ROW from St. Mary Street to Irwin Avenue equal to $250,000
- "The increase in the units will increase the number of residents living in the project, meeting the planning objective to increase housing along Bay Street" - "more affordable housing within the Central Core"
- scheme "is designed to blend in with the existing low-rise residential neighbourhood to the east and south by providing 3 storey townhouses as a perimeter building along St. Nicholas Street and Irwin Avenue"
- high-rise has been located at Bay Street end; sunlight and views are maintained at 25 St. Mary; setbacks above the 3rd floor to permit exposure of Citadel Building to sunlight and views from the south, "unique glass front" retail component brings "greater pedestrian interest" at grade on Bay Street

3. BUILDING SURVEY

- Building type	Double-loaded slab that fills its lot and is parallel to the minor street. Row houses and walk-up apartment
- Building footprint	Most of lot. Minimum setback for row houses and internal courtyard
- Location on lot	Row houses to street edge, small setback, walk-up apartment in mews; apartment building to lot lines
- Height (s) in floors	21, row houses - 3
- Height setbacks	Minor setback on Bay only
■ Entrances:	
- Building	Row houses on street; walk-up on lane/street; on Irwin at drive through, on Inkerman, in envelope of building
- Parking	Lane
- Service	Lane
■ Street Relationship:	
- Building Edge	To all street edges, setback only on Bay Street
- Landscaping	Street trees, brick paving, special planters, no trees on Bay
- Height of Ground Floor	8 feet to 10 feet (approx)
- Uses at Grade	Retail, commercial, residential lobby, service

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Bay Street Plaza, St. Joseph drop-off and entry court	Appropriate	Minimal surface, strongly divided from street	Some	
- Common					
- Private	No balconies for residential, but some low roof patios	Too large	Barren, dominated by car, recessive entrance, not pedestrian	Some	
- Parking	Some temporary parking on St. Joseph drop-off and Irwin drop-off	Too extensive	Barren		
■ Interior Common Facilities:					
- Recreation	roof level	- small exercise rooms with equipment - indoor and outdoor whirlpools - shower, sauna, change rooms (men's and women's)	nice	well used	well maintained
- Meeting Space	roof level	- 1 party room, with kitchen and roof access - 1 hobby room on P1	nice no furniture or windows	well used infrequently since unfurnished	well maintained
- Other	grade	single lobby			

		Location	Extent	Design	Use	Maintenance
-	Non-Residential Uses	retail at grade	separate condominium			
-	Parking	underground	4 levels - 1 and 2: commercial - 3 and 4: residential - shared with Polo II			
-	Service	passes underneath building, at grade			used for moving, deliveries and recycling	well maintained

4. ISSUES RAISED

1. Mixed Use

This project is predominantly residential with a minor retail component. While the location would support some office use, this has not been included.

2. Density

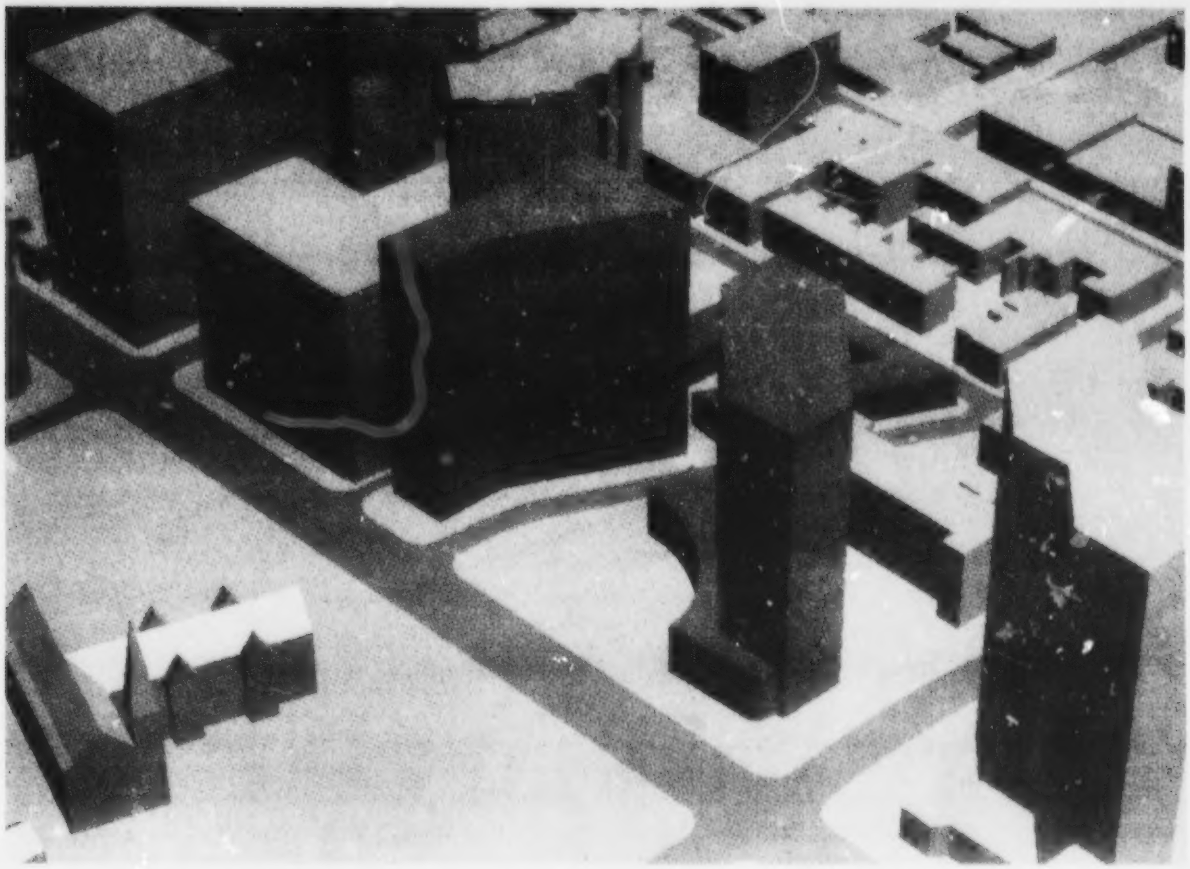
This project has distributed the density unequally on the site, so as to create townhouses on Irwin and St. Nicholas. While this responds to the existing building form on those streets, it also creates a high-rise slab at Bay or a site that is very constrained in size and dimension. As a result, the high-rise building (the density carrier) is of a form that is not appropriate to Irwin Street. Alternate massings should be explored to determine whether it would have been better to spread the density more evenly on the site, thereby intensifying St. Nicholas and Irwin Streets and easing the pressure at Bay.

3. Context Relations

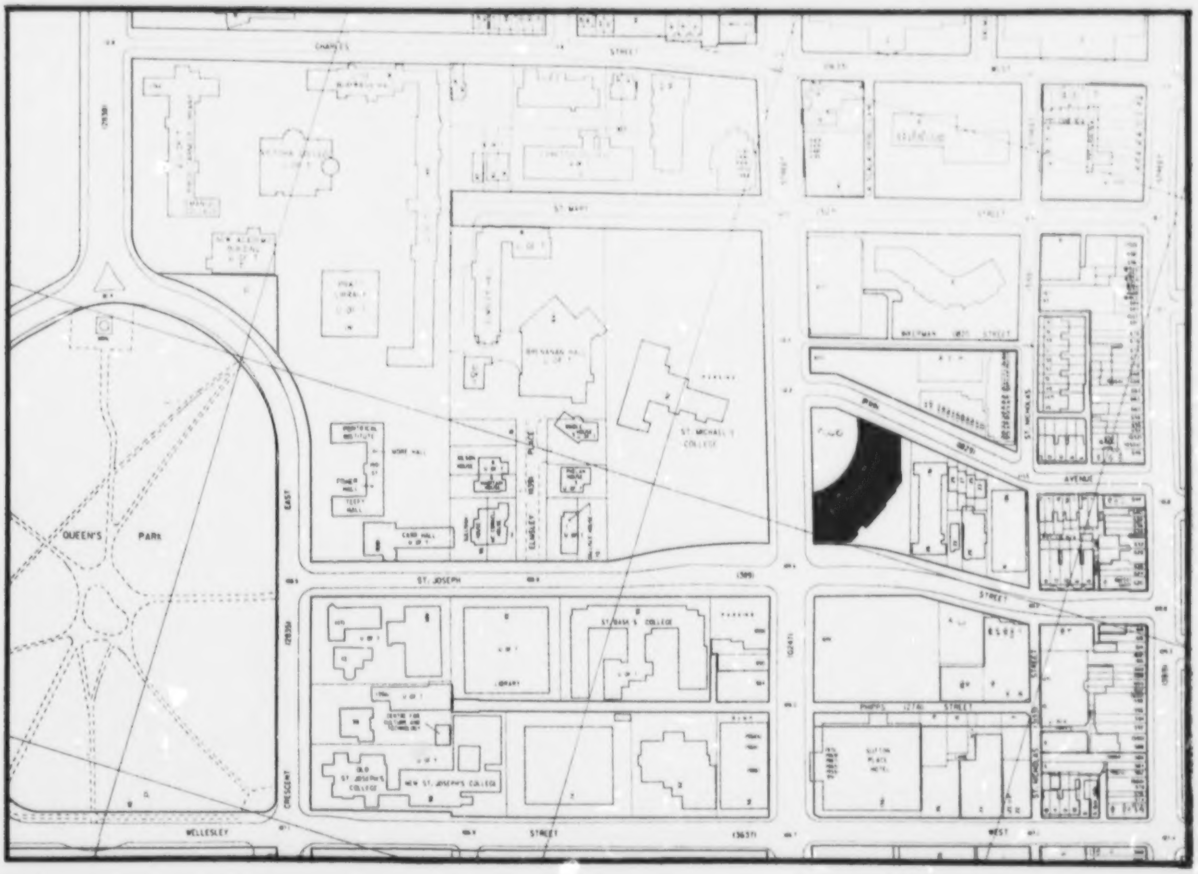
While the townhouses create appropriate street edges, the high-rise slab creates an inappropriately tall street wall (21 floors). The main entrance to the high-rise is inappropriately subservient to the vehicular drop-off. Except for the store on Bay, the uses at grade (on Irwin) are introverted and anonymous.

4. Open Space and Recreation

Recreation spaces were small. They should have been consolidated to permit more useful space.



POLO II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CENTRE FOR CULTURE AND TECHNOLOGY
OLD ST. JOSEPH'S COLLEGE
NEW ST. JOSEPH'S COLLEGE
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SUTTON PLACE HOTEL
AVENUE
ST. NICHOLAS
STREET
WELLESLEY
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WEST

1. PROJECT DESCRIPTION AND DATA

Name and Address:	Lot Area:	Frontages:	Lot Description:
Polo II Club, 1033 Bay Street, 44 St. Joseph Street	Medium 4,442 m^2	Major - Bay Street Minor - St. Joseph	One half block

Neighbourhood:	East:	St. Nicholas and Yonge Street - low-rise retail, commercial, residential
	West:	University of Toronto - low to medium-rise
	South:	Bay/Bloor high-rise residential and commercial
	North:	Bay Street - low to high-rise residential, hotel and commercial

Project Description:

- location: east side of Bay St. between Irwin and St. Joseph
- 27 storey mixed CR tower, fronting on to Bay Street, first 3 storeys are retail and commercial
- open space to front onto Bay Street - includes a "feature pavilion" - corner of Irwin and Bay Street
- five low-rise residential units along Irwin

Project Data

No. of Units: 380	Residential GFA: 30,621 m^2	Density	6.9
Tenure: Condominiums			
Density in UPH: 856	Non-Residential GFA: 8,346 m^2	Density	1.9
Average Unit Size:	TOTAL GFA: 38,967 m^2	Density	8.8
Residents under 20 Years: 4%			

Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative)	1.	2.	3.
1. High-rise 2. 3.	Bachelor: 137 1 bedroom: 194 2 bedroom: 49 3 + bedroom: Total: 380	Bachelor: 1 bedroom: 2 bedroom: 3 + bedroom: Total	Bachelor: 1 bedroom: 2 bedroom: 3 + bedroom: Total

Total Personal Recreation Space	Proposed: none noted	
	Required:	
Total Shared Recreation Space	Proposed: 2,926 m^2 + 1,648 m^2 common = 4,574 m^2	
	Provided: 798 m^2	
	Required:	
TOTAL RECREATION SPACE	Proposed: 4,574 m^2	Proposed Height: 91 m
	Required: 5,756 m^2 (as per by-law 735-83)	Permitted Height: 91 m
Landscaped Open Space (publicly accessible)	Proposed: 1,012 m^2	
	Required:	Height Setbacks:
Parking: 340 indoor		
Lot Coverage: 2,107/4,442 = 47%		

2. PLANNING REVIEW

Application Type, Date and Status: OPA and RZ	
Planning Controls	
Underlying Official Plan Designation: Site specific policy permitting 200 units; 930 m^2 non-residential GFA; 28,197 m^2 total GFA	
Underlying Zoning District: same as above (OP)	Mixing Formula Constant: 4.0
Underlying Height Limit: 91 m	
Committee of Adjustment:	

Site Specific Zoning: By-laws 735-83,742-85

- to change 1983 site plan by-law in the following ways

1) increase the number of dwelling units permitted from 200 to 399
2) permit 5,175 m^2 non-residential GFA - as apposed to just 930 m^2 permitted in 1983 - all of this was done without increasing total density (an additional lot was acquired) of 7.8x
3) move the location of the proposed open space, from Irwin, to Bay St. frontage

Site Specific Official Plan Amendment: - same as rezoning

Issues Illustrated by Case Study during Planning Review:

- seems to be one of the cases where number of permitted units were doubled - however - no discussion of this as any sort of concern

Site and Project Considerations during Planning Review: (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- large open publicly accessible but privately maintained - space on the Bay Street frontage includes a "pavilion" at NE corner which is to be the subject of a design competition. Space has hard and soft surface treatments, although mostly the former, which appears to have been a concern with the community; City seemed happy with relocated park, felt it was an appropriate "gesture" to the public and the street
- seems City's concerns re: wind, sun and noise impacts were all addressed through a collaborative redesign exercise between the City and the applicant, wind conditions in fact were apparently improved for neighbours through building's design
- conformed with existing low-rise residential and retail character on Irwin by introducing low-rise townhouse units on this frontage
- provided public parking under the building, which area needed

3. BUILDING SURVEY

-	Building type	Double-loaded slab with 3 storey commercial base. The base creates a public plaza on the main street. The slab is at 45 degree angle to the street and creates a putative forecourt on the minor street.
-	Building footprint	Setback on Bay for piazza and on St. Joseph for entry and service court.
-	Location on lot	To side street with courtyard on Bay and St. Joseph
-	Height (s) in floors	28, walk up - 3
-	Height setbacks	Setback above 3rd floor, not on all sides
■	Entrances:	
-	Building	Commercial off Bay Street plaza, residential off St. Joseph vehicular drop-off
-	Parking	On drop-off court on St. Joseph
-	Service	Lane
■	Street Relationship:	
-	Building Edge	Shape defines Plaza, built to side streets
-	Landscaping	Street trees, brick paving, special planters, no trees on Bay
-	Height of Ground Floor	
-	Uses at Grade	Retail, commercial, residential lobby, service

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Bay Street Plaza	Appropriate	Minimal surface, strongly divided from street	Some	Okay
	St. Joseph drop off and entry court	Too large	Barren, dominated by car, recessive entrance, not pedestrian	For entry only	Okay
- Private	No balconies for residential, but some low roof patios				
- Parking	Some temporary parking at St. Joseph Street drop off and Irwin drop off	Too extensive	Barren		

	Location	Extent	Design	Use	Maintenance
■ Interior Common Facilities:					
- Recreation	4th floor	- men's and women's saunas, whirlpools, showers - exercise and aerobics rooms - outdoor pool - billiard room	nice nice but small nice but small nice	all said to be used extensively	well maintained
- Meeting Space	4th floor	- large party room (1200 sf. approx.) - 3 meeting rooms	nice nice	all used extensively	well maintained
- Other	grade	2 lobbies: 1 commercial 1 residential	nice nice	all used extensively	well maintained
- Non-Residential Uses	- retail at grade - office 2 storeys above	Independent condominium			
- Parking	underground	4 levels: 2 commercial 2 residential	shared with Polo I		
- Service	lane in back			used for delivery, moving and recycling	well maintained

4. ISSUES RAISED

1. Mixed Use

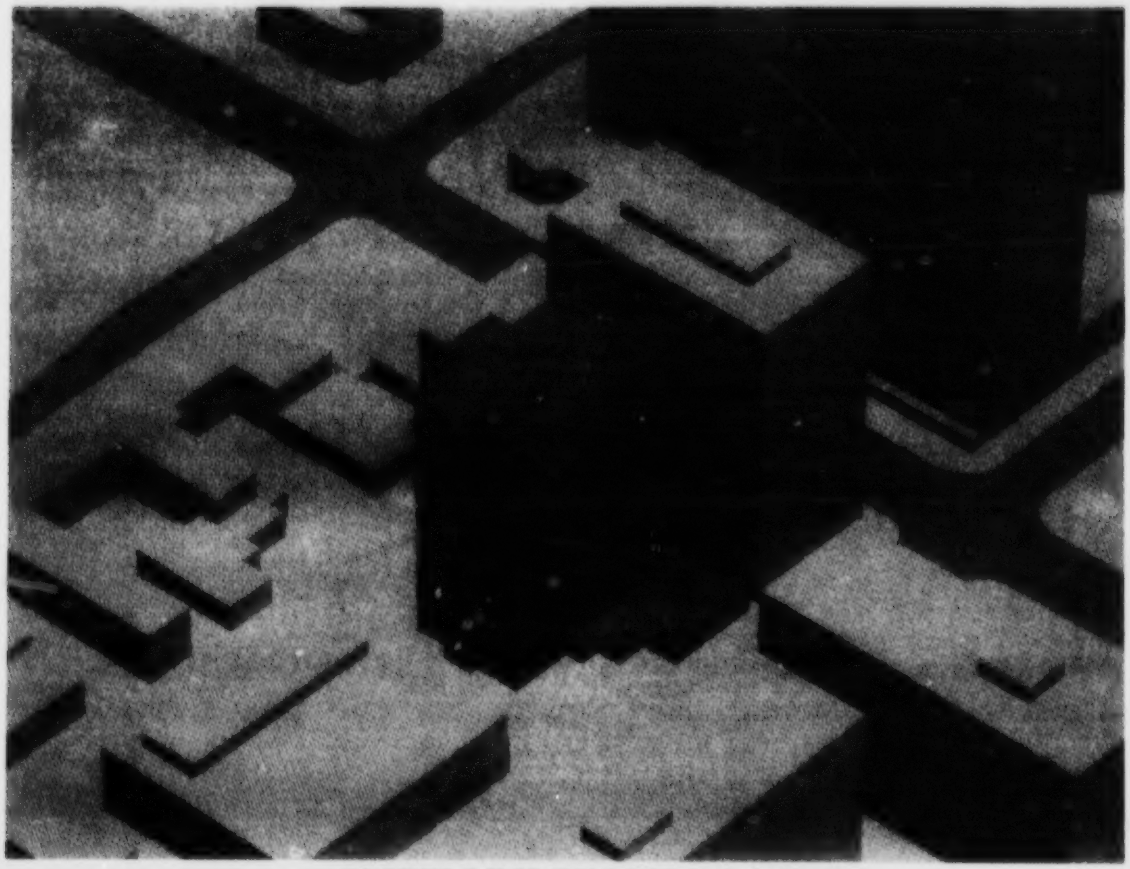
This is a mixed-use building in which retail (at grade) and offices are combined into a podium/base on which the residential slab stands. The entrances are clearly separated for each use; however, the residential entrance is not well located (tucked away, off the minor street). Servicing and parking are combined.

2. Density

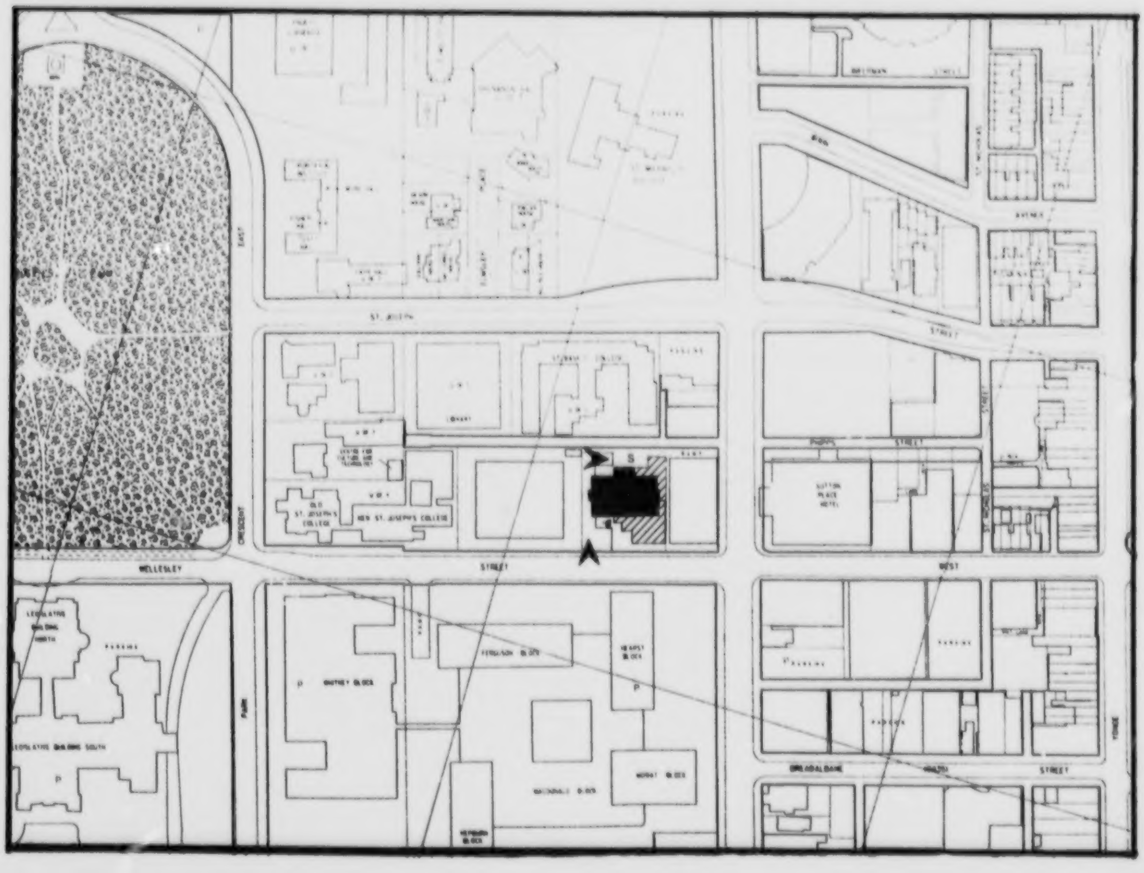
A study of alternative massing should be done to explore whether this density is appropriate to the site. As well, this study should review the effect on the massing of creating the Bay Street public space.

3. Context Relations

In some ways, the retail/commercial base creates a good relationship to the street and public open space. However, the base is not extended to the "rear" side or St. Joseph; here, the condition is suburban (extreme setback, vehicular drop-off) and the slab rises directly from grade to 25 floors. This forecourt also requires pedestrians to use the driveway and mixes service areas with the public entry.



62 WELLESLEY STREET WEST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FERGUSON BLOCK
HEARST BLOCK
MACDONALD BLOCK
MOWAT BLOCK
HEPBURN BLOCK
BREADALBANE
STREET
YONGE
AVENUE

1. PROJECT DESCRIPTION AND DATA

Name and Address:	Lot Area:	Frontages:	Lot Description:
Queen's Park Condominium 62 Wellesley Street West	Medium 3,029 m^2	Wellesley	Through-lot to lane Mid-block

Neighbourhood:	East:	Bay Street - high-rise office and residential
	West:	University of Toronto - low-rise institutional
	South:	University of Toronto - low-rise institutional
	North:	Queen's Park - mid-rise government offices

Project Description: 19 storey residential condominium building with commercial use at grade

Project Data

No. of Units: 102	Residential GFA: 13,977 m^2	Density	4.6
Tenure: Condominiums			
Density in UPH: 345 uph	Non-Residential GFA: 2,325 m^2	Density	0.8
Average Unit Size: 143 m^2	TOTAL GFA: 16,302 m^2	Density	5.4
Residents under 20 Years: 6%			

Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative) 1. High-rise 2. 3.	1.	2.	3.
	Bachelor:	Bachelor:	Bachelor:
	1 bedroom: 17	1 bedroom:	1 bedroom:
	2 bedroom: 68	2 bedroom:	2 bedroom:
	3 + bedroom: 17	3 + bedroom:	3 + bedroom:
	Total 102	Total	Total

Total Personal Recreation Space	Proposed: 1,093 m^2	
	Required: Unknown, but planning report indicated proposal meets requirements	
Total Shared Recreation Space	Proposed: 1,406 m^2	
	Provided: 805 m^2	
	Required: Unknown, however planning report indicated proposal = to "double the by-law standard"	
TOTAL RECREATION SPACE	Proposed: 2,944 m^2	Proposed Height: 52 m
	Required:	Permitted Height: - no restrictions
Landscaped Open Space (publicly accessible)	Proposed: 576 m^2	
	Required:	Height Setbacks:
Parking: 129 spaces; 126 indoor, 3 outdoor		
Lot Coverage: 1,352/3,029 = 45%		

2. PLANNING REVIEW

Application Type, Date and Status:	Rezoning to increase permitted residential density to the level permitted by the Central Area Plan
Planning Controls	
Underlying Official Plan Designation: MDMCR	
Underlying Zoning District: QR L2 U60	Mixing Formula Constant: 4.0
Underlying Height Limit: None	
Committee of Adjustment:	

Site Specific Zoning:

By-law 231-79

Site Specific Official Plan Amendment:

Issues Illustrated by Case Study during Planning Review

- an example of a uph building which exceeds maximum FSI intended in the MDMCRA designation (ie. 5.3 x as compared to 4x) - unanticipated bulk
- one of the buildings that provided large recreation space, might be interesting to evaluate residents' use of the space. (space included: outdoor balconies; large shared recreation facility; recreation and meeting rooms; and landscaped decks)

Site and Project Considerations during Planning Review (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- achieved OP objective of encouraging the provision of City services in cases involving the redevelopment of institution lands or buildings - project provided substantial space and facilities for the War Amps and the March of Dimes
- services to the disabled (the War Amps occupied the original 2 storey building on the site)
- project "implements and important objective of the OP by introducing a residential function into an area primarily devoted to institutional and commercial land uses."
- brought a population into the Bay/Wellesley area

3. BUILDING SURVEY

- Building type	High-rise doubled loaded slab parallel to the street with a large setback that creates a putative forecourt and rear service court. Ground floor extensions at front and rear
- Building footprint	Approximately 60% of lot
- Location on lot	Main mass is very setback, with low extension partially to street
- Height (s) in floors	18
- Height setbacks	Partial, above ground floor
■ Entrances:	
- Building	Associated with vehicular drop-off, setback from street, not clear
- Parking	Circular drive, drop-off and open ramp at rear
- Service	Off lane, at grade, open air, side driveway
■ Street Relationship:	
- Building Edge	Not to street, commercial wing is set back about 10 feet, with only a low wall and terrace extending to the streets. Residential block is set back about 60 feet.
- Landscaping	No landscaping in sidewalk, good quality trees and bushes planted in raised planters in set back areas and on low roof
- Height of Ground Floor	Approximately 8 feet
- Uses @ Grade	Commercial office, residential lobby, drop-off and service

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Front Court	Extensive	Suburban, visual value only	Driveway and walkway	Okay
- Common	None				
- Private					
- Parking	Some short term parking on grade at rear Ramp to underground parking at rear		Partially under building ramp is open air		
■ Interior Common Facilities:	NOTE: all facilities open from 6 am - 11 pm				
- Recreation	roof	-landscaped deck with patio chairs,men's & women's saunas, changerooms showers,	-nicely landscaped, good size	-well used	-clean
		-indoor pool	-good size pool & deck - natural light	-used, but not extensively	-clean
	B1	-exercise room (bike, rower, weights, mats)	-fine, but rather small,limited equipment	-used,but not extensively	-clean
		-1 squash ct	-fine	-used quite a bit	-clean
	B2	-1 ping pong room/1 table	-fine	-used a lot by the handful of kids in the building	-clean

	Location	Extent	Design	Use	Maintenance
- Meeting Space		-no meeting or party rooms			
- Other		-lobby (2 sitting areas)	-nicely furnished	-only for waiting	-clean
- Non-Residential	Office at grade, but independent operation & maintenance				
- Parking	below grade				good
- Service	-Rear of building	-lane, plus loading area within building	-fine,but does not have special service elevator for moving, which apparently causes difficulty	-used extensively	-clean

4. ISSUES RAISED

1. Mixed Use

This project only contains a minor component of offices in an area that is largely commercial.

2. Density

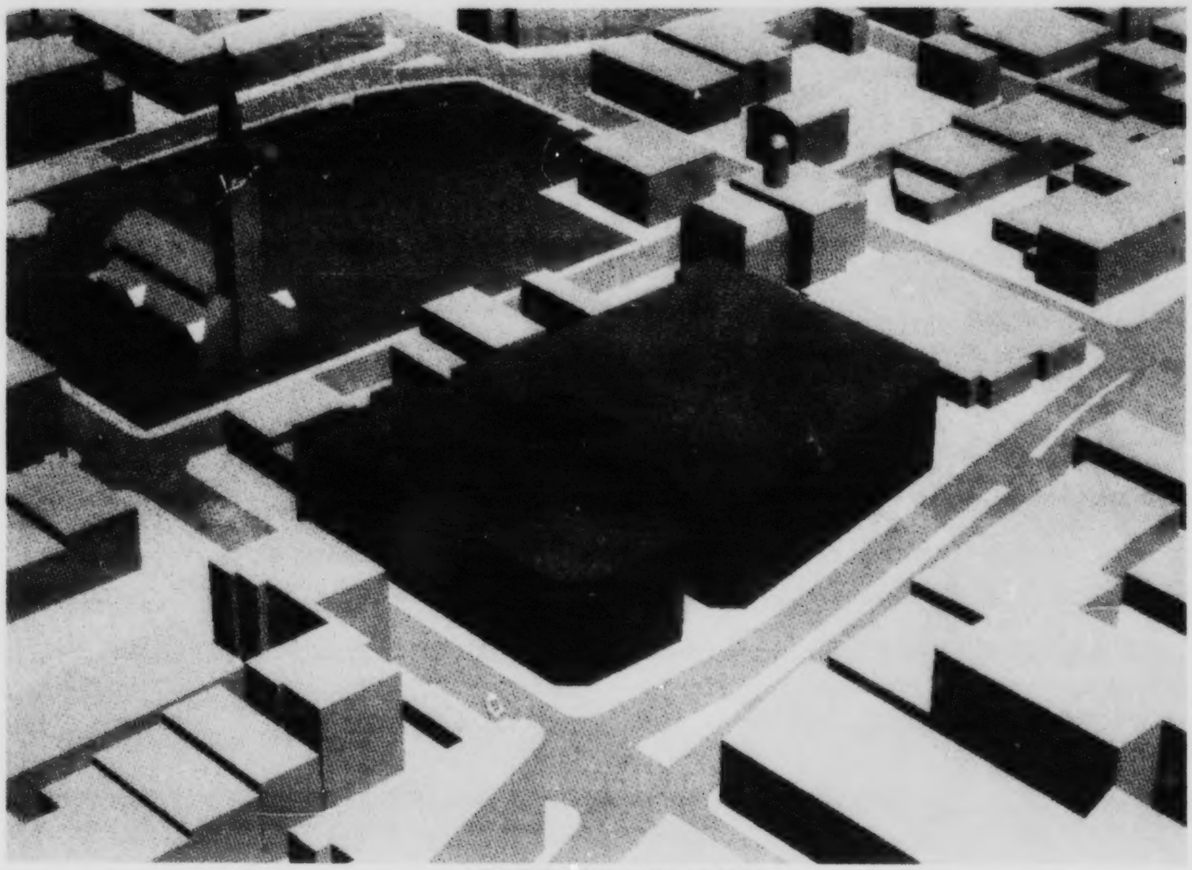
The density does not seem inappropriate to the location or the lot size.

3. Context Relations

The building is inappropriately suburban in its location on the lot, entrances and massing. The putative forecourt is consumed by the vehicular driveway and drop-off, and not sufficiently defined spatially. Despite its size, the entrance itself is obscured. By raising the offices at grade, the design creates a blank wall along Wellesley. The service area is appropriately located on the rear lane.

4. Open Space and Recreation

Landscaped roof deck is appropriate. Recreation space adequate.



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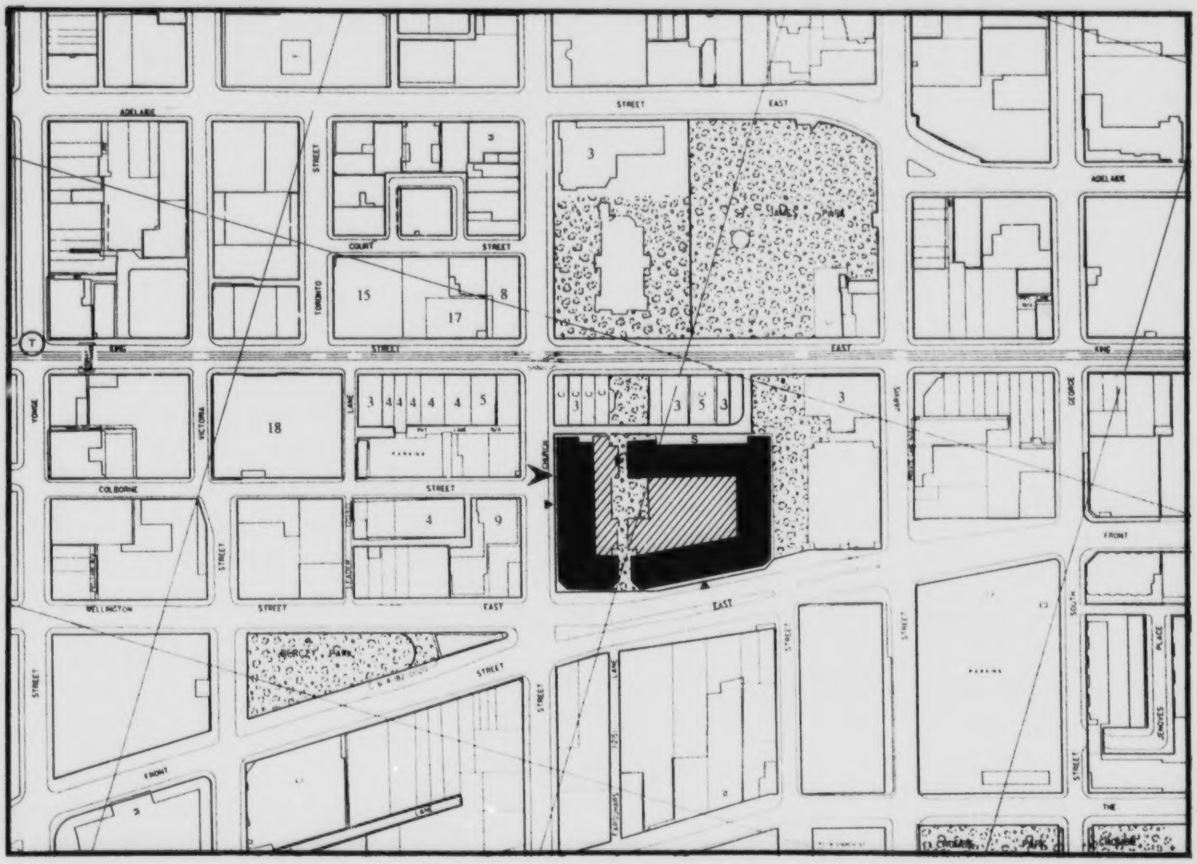
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1. PROJECT DESCRIPTION AND DATA

Name and Address:	Lot Area:	Frontages:	Lot Description:
80 Front Street East (Market Square)	Large, most of block 11,348 m^2	Major - Front Street east Minor - Church Street Market open space	End of block Two corners

Neighbourhood:	East:	St. Lawrence Market and District - Low to medium-rise, retail and residential
	West:	Low-rise to commercial on Wellington to high-rise Central Business District
	South:	Historic St. Lawrence district - low-rise theatres, retail, office
	North:	Low-rise historic buildings on King - commercial, retail, St. James Cathedral and park
Project Description:		8 storey mixed commercial/residential development; street related retail; cinemas below grade

Project Data

No. of Units: Proposed: 306 Permitted: 365	Residential GFA: 51,053 m^2	Density	4.5
Tenure: Condominiums			
Density in UPH Proposed: 270 Permitted: 350	Non-Residential GFA 11,762 m^2	Density	1.0
Average Unit Size 166 m^2	TOTAL GFA 62,815 m^2	Density	5.5
Residents under 20 Years: 9%			

Breakdown by Type by Building:	1.		2.		3.	
(e.g. high-rise condo, townhouse, low rise co-operative)	Bachelor:	9	Bachelor:		Bachelor:	
1. Medium-rise	1 bedroom:	64	1 bedroom:		1 bedroom:	
2.	1 bedroom + den:	102	2 bedroom:		2 bedroom:	
3.	2 bedroom:	98	3 + bedroom:		3 + bedroom:	
	2 bedroom + den:	33				
	Total:	306	Total		Total	

Total Personal Recreation Space	Proposed: 5,728 m^2 (enclosed balconies)	
	Required:	
Total Shared Recreation Space	Proposed: 1,170 m^2 (party room, squash, racquetball)	
	Provided:4,712 m^2 Required:	
TOTAL RECREATION SPACE	Proposed: 7,483 m^2	Proposed Height: 31.96 m
	Required: 7,441 m^2	Permitted Height: 23 m
Landscaped Open Space (publicly accessible)	Proposed: 1,000 m^2	
	Required: 396 m^2	Height Setbacks:
Parking: 345 spaces commercial, 330 residential	Required: 260	
Lot Coverage: 7,550/11,348 = 67%		

2. PLANNING REVIEW

Application Type, Date and Status:	Zoning By-law Amendment	
Planning Controls		
Underlying Official Plan Designation: MDMCRA		
Underlying Zoning District: CRL1U350, CRL2U350	Mixing Formula Constant: 4.0	
Underlying Height Limit: 23 m (75 ft.)		
Committee of Adjustment:	Committee of Adjustment permission for:	- increased lot coverage above max 60% - increased height

Site Specific Zoning:

Site Specific Official Plan Amendment:

Issues Illustrated by Case Study during Planning Review

- mixed use - uph
- low-rise development
- density below that permitted by by-law
- enclosed balconies
- more than required common outdoor space
- total recreation space as required by by-law

Site and Project Considerations during Planning Review (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- pedestrian access through development
- street related retail
- arcades at grade along Front and Church
- recreation facilities below grade
- relationship to Berczy Park, St. Lawrence Historic District
- built to street line

3. BUILDING SURVEY

-	Building type	Perimeter Block - medium rise Two U-shaped double-loaded slabs with retail base and raised terraces in the courtyard
-	Building footprint	Most of the site, except central pedestrian route
-	Location on lot	To street lines and property lines
-	Height (s) in floors	8
-	Height setbacks	None
■	Entrances:	
-	Building	80 Front Street- entry on Front and on pedestrian route - hard to find 35 Church Street - entry off drop off under the building - hard to find
-	Parking	Off Church Street - ramp and drop off within building envelope
-	Service	On the lane, at grade, open air
■	Street Relationship:	
-	Building Edge	Built to street edges, arcade on Front and Church of irregular dimension, largely introverted retail at grade. Built to lot line. Market open space, retail at grade
-	Landscaping	Street trees in sidewalk, planters in route through located in incidental ways. More intensive planting on low roof - trees and shrubs
-	Height of Ground Floor	10 ft. approx
-	Uses at Grade	Retail, lobbies, service area

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Mid-block pedestrian route	Good size	Okay	Yes	good
- Common					
sundecks	9th and 10th floors	spacious	good sunlight and views	frequent	good
roof gardens	2nd floor above retail mall	spacious	well landscaped, little sunlight; townhouse windows on garden	infrequent	good
	4th floor above townhouses on passageway	small	cemented open space with little landscaping	not used	good
- Private	East terrace - no balconies				
- Parking	Short term in drop-off area Parking is underground	Drop-off is too expansive	Unpleasant low ceiling; Dark		

	Location	Extent	Design	Use	Maintenance
■ Interior Common Facilities:					
- Lobby	35 Church 80 Front (2 lobbies)	too large		good security	good
- Recreation					
weight room/squash courts	P3	small/2 courts		mornings/ evenings/ weekends; 20% of residents	good
swimming pool/whirlpool	8th floor	normal		frequent	good
saunas	9th floor	one in each changeroom and one mixed		frequent	good
- Meeting Space					
party/meeting room	P3	large; holds 65 people	good	5-6 times a month	good
- Other					
library/card room	9th floor	50 m^2 approx.		infrequent	good
- Non-Residential Uses	interior retail mall; retail at grade on street				
- Parking	underground	3 levels 1 space/du			good
- Service laneway	behind buildings off Church Street		well located with no windows		good
loading entrance	beside main entrance		too close to main entrance		

4. ISSUES RAISED

1. Mixed Use

The project includes a significant amount of retail at grade, which does not appear to cause any conflicts with the residential uses.

2. Density

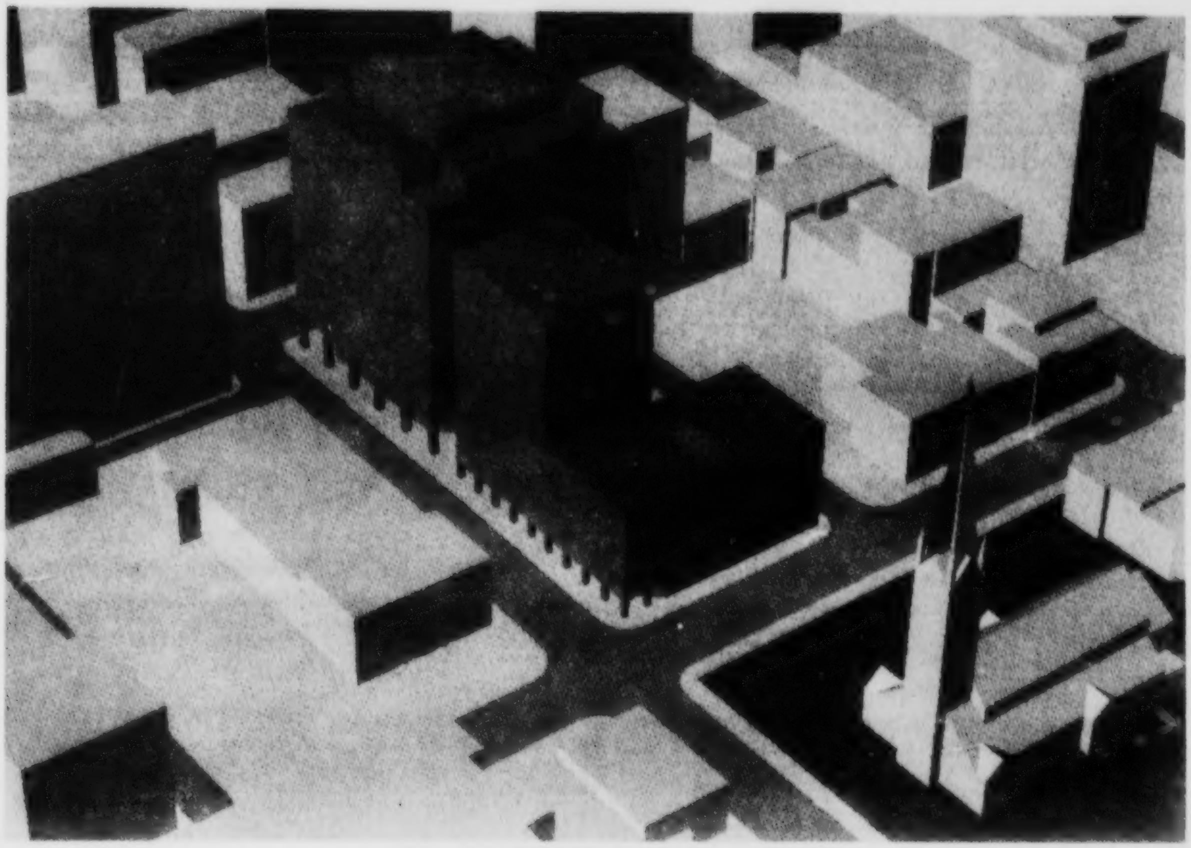
The density appears to be appropriate. The resulting building form is medium-rise with good urban design conditions.

3. Context Relations

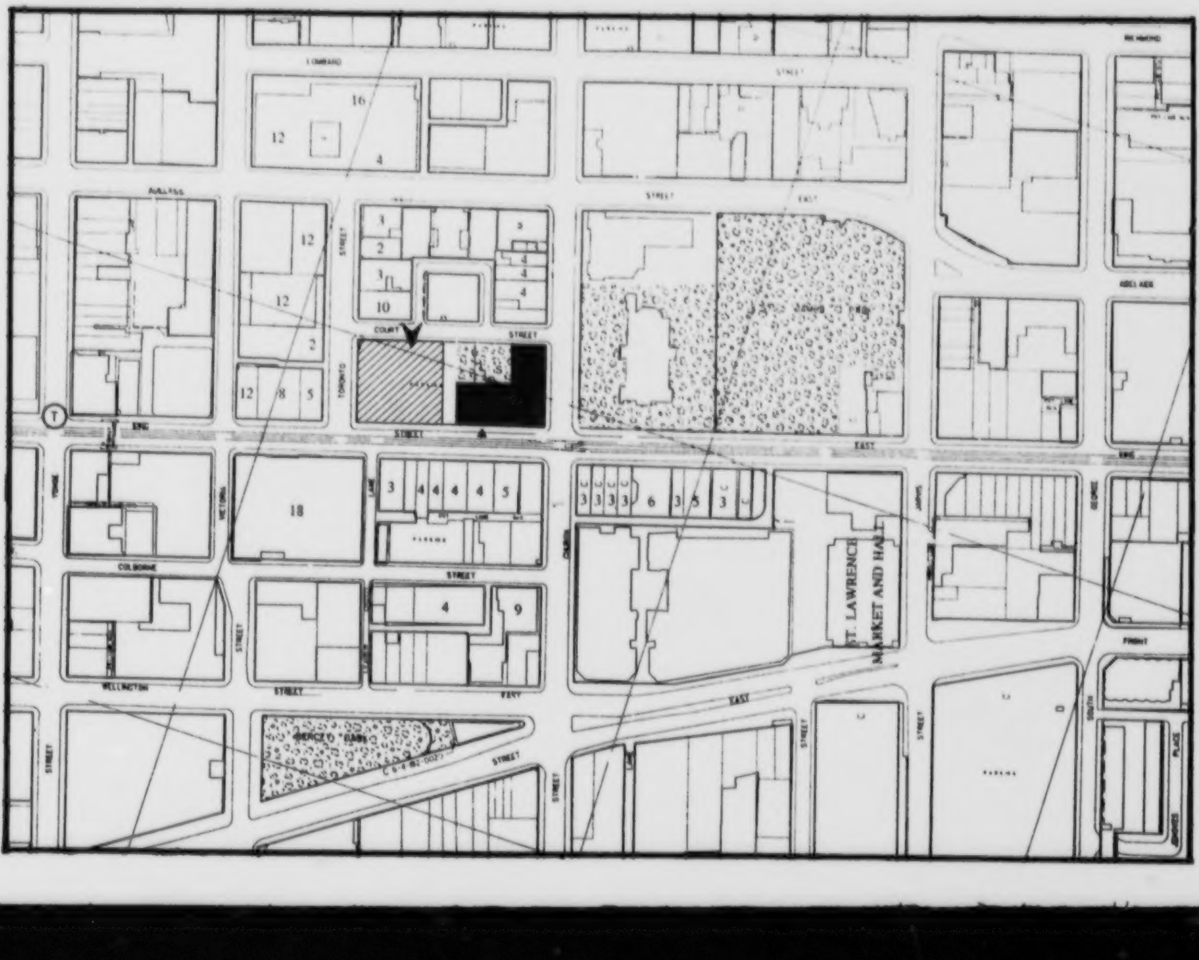
The massing gives appropriate definition to the surrounding streets. The retail uses and arcade on Church and Front attempt to create a good public edge at grade; however, the irregularity of the arcade discourages its use for walking in, and the stores are somewhat introverted. Entrances to the residential buildings are obscurely located. Landscaping of the mid-block route could be more extensive and permanent; the shape of the route could also be clearer to emphasize its public and through-block nature.

4. Open Space and Recreation

The public mid-block walkway is appropriate. The common space in the form of rooftop decks and terraces is well landscaped and defined.



70 - 92 KING STREET EAST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PLACE

1. PROJECT DESCRIPTION AND DATA

Name and Address:	Lot Area:	Frontages:	Lot Description:
70-92 King Street East	Medium 5,197 m^2	Major - King St. E. Minor - Church - Court	Full block development

Neighbourhood:	East:	Historic St. Lawrence district - low to medium rise - commercial, residential & retail St. James Church & Park
	West:	Yonge St. and financial district - medium to high rise
	South:	Front St. E. - theatres, King Edward Hotel - low to high rise
	North:	Adelaide, Richmond, Queen - low to medium rise - mixed uses

Project Description:	Mixed-use - 2 buildings -15 storey office -17 & 8 storey rental apt. -street related retail

Project Data

No. of Units: 212	Residential GFA: 16,278 m^2	Density:	3.1
Tenure: Rental			
Density in UPH: 407	Non-Residential GFA: 4,610 m^2 + 32,461 m^2 = 37,071 m^2	Density:	7.1
Average Unit Size: 76.92 m^2	TOTAL GFA: 20,888 m^2 + 32,461 m^2 = 53,349 m^2	Density:	10.3
Residents under 20 Years: n/a			

Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative) 1. High-rise 2. 3.	1.		2.		3.	
	Bachelor:		Bachelor:		Bachelor:	
	1 bedroom:	120	1 bedroom:		1 bedroom:	
	2 bedroom:	92	2 bedroom:		2 bedroom:	
	3 + bedroom:	--	3 + bedroom:		3 + bedroom:	
	Total	212	Total		Total	

Total Personal Recreation Space	Proposed:	1,747.47 m^2	solariums
	Required:	1,608 m^2	
Total Shared Recreation Space	Proposed:	2,630.48 m^2	roof terraces
	Provided:	2,792 m^2	
	Required:		
TOTAL RECREATION SPACE	Proposed:	4,377.95 m^2	Proposed Height
	Required:	4,496 m^2	Permitted Height
Landscaped Open Space	Proposed:	936 m^2	
(publicly accessible)	Required:	935.46 m^2	Height Setbacks
Parking:	Residential	167 indoor	
	Non-residential	187 indoor	
	Total	354	Required 129
Lot Coverage:	3,326/5,197 = 64%		

2. PLANNING REVIEW

Application Type, Date and Status:	OPA & Zoning By-law Amendment (triggered by City's desire to acquire park at 10 Court St)	
Planning Controls		
Underlying Official Plan Designation:	HDMCRA with site specific provision permitting HDMCRA within specific bldg envelope	
Underlying Zoning District:	CR L4.5 U480	Mixing Formula Constant: 4.0
Underlying Height Limit:	site specific zoning by-law	
Committee of Adjustment:		

Site Specific Zoning:

By-law no. 673-87

Site Specific Official Plan Amendment: Section 11.20 of O.P

- OPA permits buildings on this block in accordance with HDMCRA provided that by-law sets out height and angular plane limitations which ensure compatibility with height and massing of surrounding buildings.

Issues Illustrated by Case Study during Planning Review

- comparison between anticipated and resulting microclimatic conditions

Site and Project Considerations during Planning Review:

(public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- proximity to historic buildings
- potential impact on sunlight in adjacent park
- conveyance of site for park
- pedestrian orientation
- reduced shared rec. facilities justified on the basis of proximity of park
- public walkway required between King & Court Streets

3. BUILDING SURVEY

-	Building type	L-shaped double-loaded slab with landscaped and service court
-	Building footprint	66% approx.
-	Location on lot	Built to street on King, Church, and partially to court
-	Height (s) in floors	8-17
-	Height setbacks	None
■	Entrances:	
-	Building	Off King, Minor entry of court Retail on Church and King
-	Parking	Off Court St. - inside adjacent commercial building to west
-	Service	Off Court St., a small service court that also serves as a back door
■	Street Relationship:	
-	Building Edge	To street lines Arcade on King & Church - good size
-	Landscaping	In courtyard only - sitting area with benches to come Good quality planting
-	Height of Ground Floor	10 ft. approx.
-	Uses at Grade	Commercial/retail/residential lobby/service area

		Location	Extent	Design	Use	Maintenance
■	Open Space:					
-	Public	Landscaped court	Small	Raised, concrete, good planting, no seating, overshadowed Ambiguous degree of publicness	None	Okay
-	Private	Landscaped roof deck (9th fl.)	Approx. 1600 sq.ft.	Concrete, & interlock Good landscaping Will have benches & patio furniture	Well used	Brand new
-	Parking	None at grade		Ramp is open air		

	Location	Extent	Design	Use	Maintenance
■ Interior Common Facilities:	NOTE: There is one recreation room of roughly 350-400 sq.ft. on each of the first 8 floors. The one on the 8th floor is virtually unable because of the fans directly above in the mechanical penthouse.				
- Recreation	-6th floor	games room (pingpong, darts, shuffleboard)	-small, no natural light	-too new to say	-brand new
	-5th floor	-exercise room (lifecycle bikes,rowing machine,stair machine	-small, no natural light	-too new to say	-too new to say
	-4th floor	-exercise room (nautilus,free weights)	-small, no natural light	-too new to say	-too new to say
- Meeting Space	-3rd floor	-party/ meeting room	-very small, no natural light	-too new to say	-too new to say
- Other	-2nd, 7th, 8th floors	-uses for these yet to be determined			
- Non-Residential Uses	-retail at grade, but independent			-too new to say	-too new to say
- Parking	-underground	-3 levels	-fine	-too new to say	-too new to say
- Service	-from Court St	-loading area for moving with access to service elevator	-fine	-too new to say	-too new to say

4. ISSUES RAISED

1. Mixed Use

This is a highly mixed-use project in which residential and offices are accommodated in two separate buildings, each of which has retail at grade. There is a common underground garage, but service is done separately for each building. There are no obvious problems with this, although the buildings are not yet occupied

2. Density

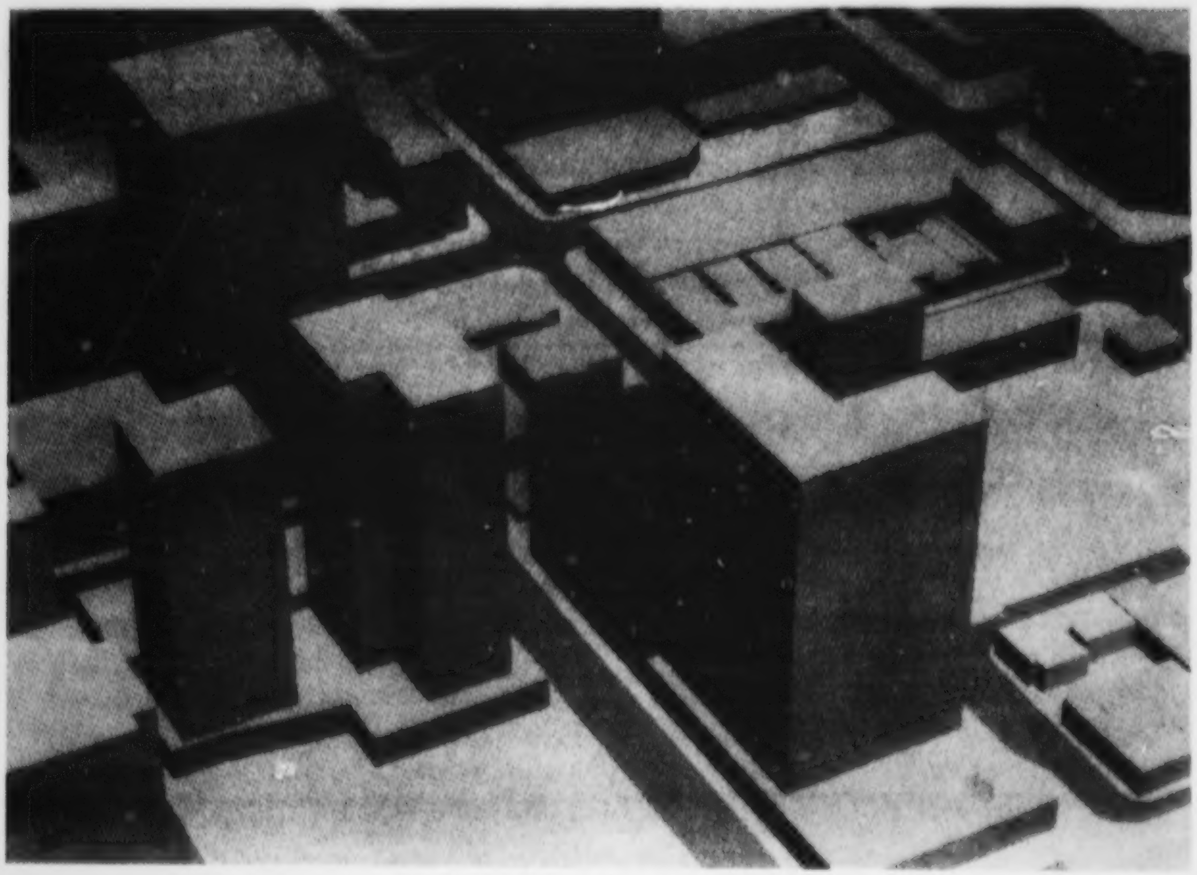
Appears to be appropriate.

3. Context Relations

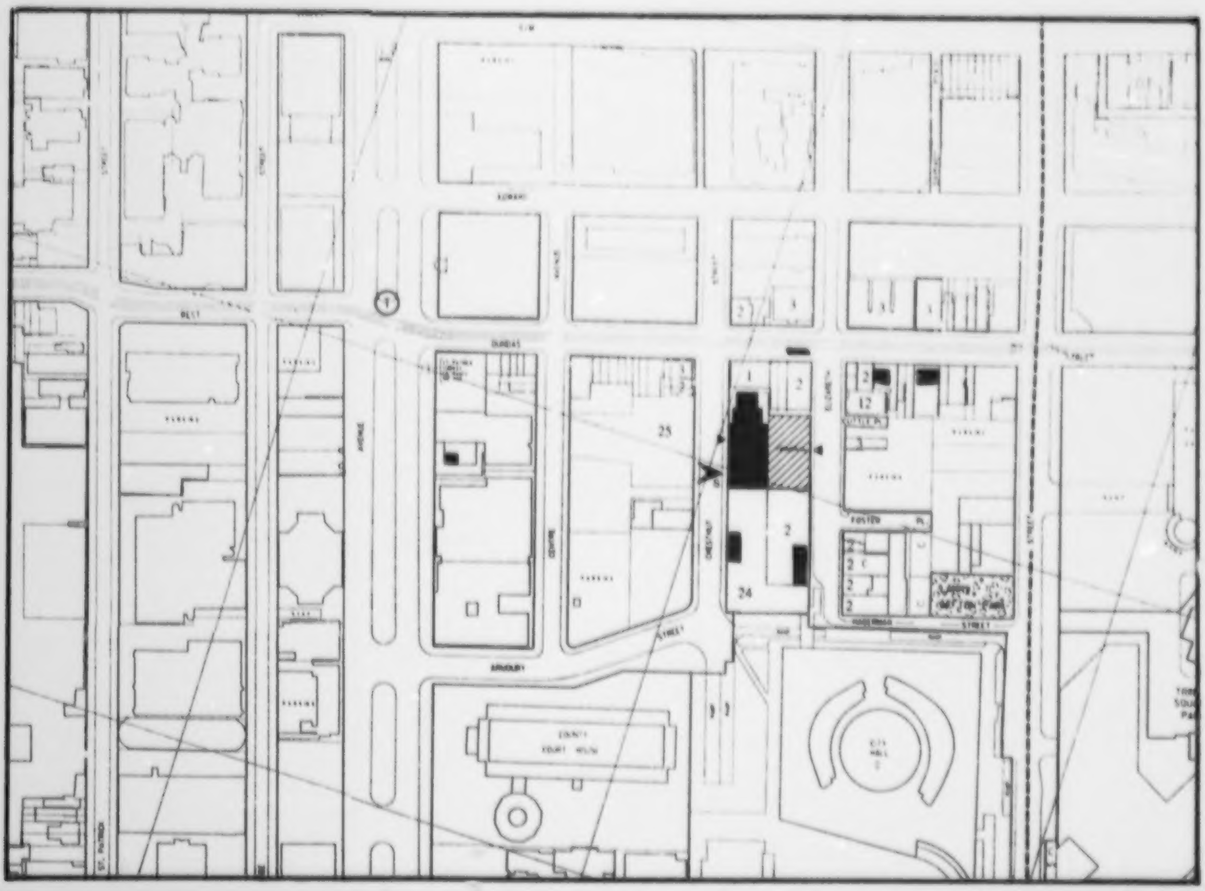
The massing of the buildings is used to create spatially defined streets and a courtyard on Court Street. As well, there is a public route through the block (although it is not clear that this route answers the real need). The ground floor retail and arcade on both King and Church create an appropriate street condition at grade. Entrances are clearly identified and well located. Court Street, however, is ambiguous as to its publicness or privateness because it is raised, and does not contain benches or other public facilities. As well, the location of this space on the north side of the building casts it in shadow. A south-facing L-shaped building would have created a more amiable space. As the residential building steps up to 17 stories, it does not set back from the street, so that an uninterrupted street wall of 17 floors is created on King and the mid-block route.

4. Open Space and Recreation

The recreation space in this building was broken-up into eight small rooms (one per floor), some of which were essentially unusable because of their proximity to noisy mechanical equipment in the building. None had any daylight exposure. This space was clearly fit into what would otherwise be useless space within the building's core.



111 CHESTNUT STREET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1. PROJECT DESCRIPTION AND DATA

Name and Address: 112 Elizabeth Street 111 Chestnut Street	Lot Area: Medium 2,360 m^2	Frontages: Commercial - Elizabeth Residential - Chestnut	Lot Description: Through - block Mid - block Lane to north

Neighbourhood:	East:	Low-rise commercial to Bay, medium-rise on Bay towards Yonge Street
	West:	University Avenue commercial district - high-rise
	South:	City Hall - high-rise
	North:	Low-rise gas station and Chinatown on Dundas, bus terminal, hospital district (medium- rise)
Project Description:		15 storey, 144 dwelling unit assisted housing project with a 1,700 m^2 non-residential component at 112 Elizabeth Street

Project Data

No. of Units: 144	Residential GFA: 10,536 m^2	Density 4.5
Tenure: Rental		
Density in UPH: 610	Non-Residential GFA: 3,138 m^2	Density 1.3
Average Unit Size:	TOTAL GFA: 13,674 m^2	Density 5.8
Residents under 20 Years: 38%		

Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative) 1. High-rise 2. 3.	1.		2.	3.
	Bachelor:	1	Bachelor:	Bachelor:
	1 bedroom:	44	1 bedroom:	1 bedroom:
	2 bedroom:	88	2 bedroom:	2 bedroom:
	3 + bedroom:	11	3 + bedroom:	3 + bedroom:
	Total: (all assisted units)	144	Total	Total

Total Personal Recreation Space	Proposed:	
	Required:	
Total Shared Recreation Space	Provided: 657 m^2	
	Required:	
TOTAL RECREATION SPACE	Proposed:	Proposed Height:
	Required:	Permitted Height: 76 m Elizabeth St.: 14 m
Landscaped Open Space (publicly accessible)	Proposed:	
	Required:	Height Setbacks:
Parking: 102 indoor		
Lot Coverage: 1,959/2,360 = 83%		

2. PLANNING REVIEW

Application Type, Date and Status: Report on Amendments to Development Agreement dated May 27, 1985		
Planning Controls		
Underlying Official Plan Designation: High density mixed commercial - residential area		
Underlying Zoning District:	CR L4.5 U480 by By-law 20623, amended by 710-82	Mixing Formula Constant: 7.8
Underlying Height Limit:	76 m - Elizabeth frontage 14 m applies to depth of 9.1 m from Elizabeth lot line.	
Committee of Adjustment:		

Site Specific Zoning:

By-law 20623, amending by-law 710-82 restricting non-residential gross floor area to 1,858 m^2 (20,000 sq.ft.) and permits up to a maximum of 150 dwelling units on the lot

Site Specific Official Plan Amendment:

By-law 610-82, adopted Oct.7, 1982, restricts the commercial density at 112 Elizabeth to 0.78 times the area of the lot.

Issues Illustrated by Case Study during Planning Review

Lack of animation at street level for pedestrians;
- should introduce street-related uses at grade
- review location of vehicular access points to create an acceptable relationship to grade and a satisfactory pedestrian environment on street

Site and Project Considerations during Planning Review: (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- proposed uses at grade (lobby space, shared recreation space) do not contribute to good pedestrian environment on street, especially in context of hotel across street

3. BUILDING SURVEY

-	Building type	High-rise double loaded slab parallel to the street with a commercial base that covers the lot.
-	Building footprint	Almost 100% of site (check for central court)
-	Location on lot	To street lines and property lines - lane to north - party wall to south
-	Height (s) in floors	3 on Elizabeth (commercial) 14 on Chestnut (residential)
-	Height setbacks	Elizabeth - none Chestnut - minor stepping back at grade, some overhang above 3rd floor
■	Entrances:	
-	Building	Residential - Chestnut - clear, street entry
-	Parking	Commercial and future retail - Elizabeth - clear, street entry Ramp to underground on Chestnut
-	Service	Recessed service bay and area in envelope of building on Chestnut
■	Street Relationship:	
-	Building Edge	Chestnut - minor setback - street wall rises full height to 14 floors Elizabeth - to street edge, 3 floors
-	Landscaping	Chestnut - Trees in sidewalk - small sitting area with benches and small tress Elizabeth - Trees in sidewalk
-	Height of Ground Floor	Chestnut - 8 feet approx. Elizabeth - 9 feet approx.
-	Uses at Grade	Chestnut - small offices, residential entrance, service area Elizabeth - offices

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Public open space at grade on Chestnut	very small	poor, micro-climate problem	yes	okay
- Common					
play area	2nd floor, outdoor; above parking; between 2 buildings	750 m^2 approx.	minimal landscaping and equipment; apartments look directly onto area	frequent	good
sundeck	on roof	spacious	minimal landscaping; no wind breaks	infrequent	okay
- Private	No private balconies				
- Parking	none at grade, all underground		parking entry is in building		okay

	Location	Extent	Design	Use	Maintenance
■ Interior Common Facilities:					
- Recreation					
exercise room	basement level 1	36 m^2 approx.	modern change rooms	no equipment; not open	
- Meeting Space					
party room	2nd floor	9 m^2	no equipment	5 times/year	good
meeting rooms	2nd floor	8 m^2 approx.		residents - no access	good
	basement level 1	120 m^2 approx.	pillars obstruct space	exclusive to tenants' committee (once a month)	good
- Other					
laundry room	looks out on Chestnut at grade	spacious	big windows	well used	
- Non-Residential Uses	2 offices at grade				
- Parking	2 levels below grade	110 spaces for 144 units		not all used, so rented out	bad security; break-ins
- Service	entrance directly beside main entrance on Chestnut	large access			

4. ISSUES RAISED

1. Mixed Use

The project mixes residential (dominant) and commercial offices, with the residential located in a slab above a commercial base that fills the site. The commercial and residential are clearly separate. This mix of uses is appropriate to the location.

2. Density

By accommodating all of the residential in one slab, an excessively tall building was created, without vertical setbacks. A study of alternative massing is needed to determine whether this density is appropriate to the size and configuration of the site.

3. Context Relations

While the scale and treatment of the building on Elizabeth St. is benign, the same cannot be said on Chestnut St. Here the project is contributing to the creation of a high-rise canyon that has undesirable conditions of light, view and wind. The scale of the street wall is overwhelming.

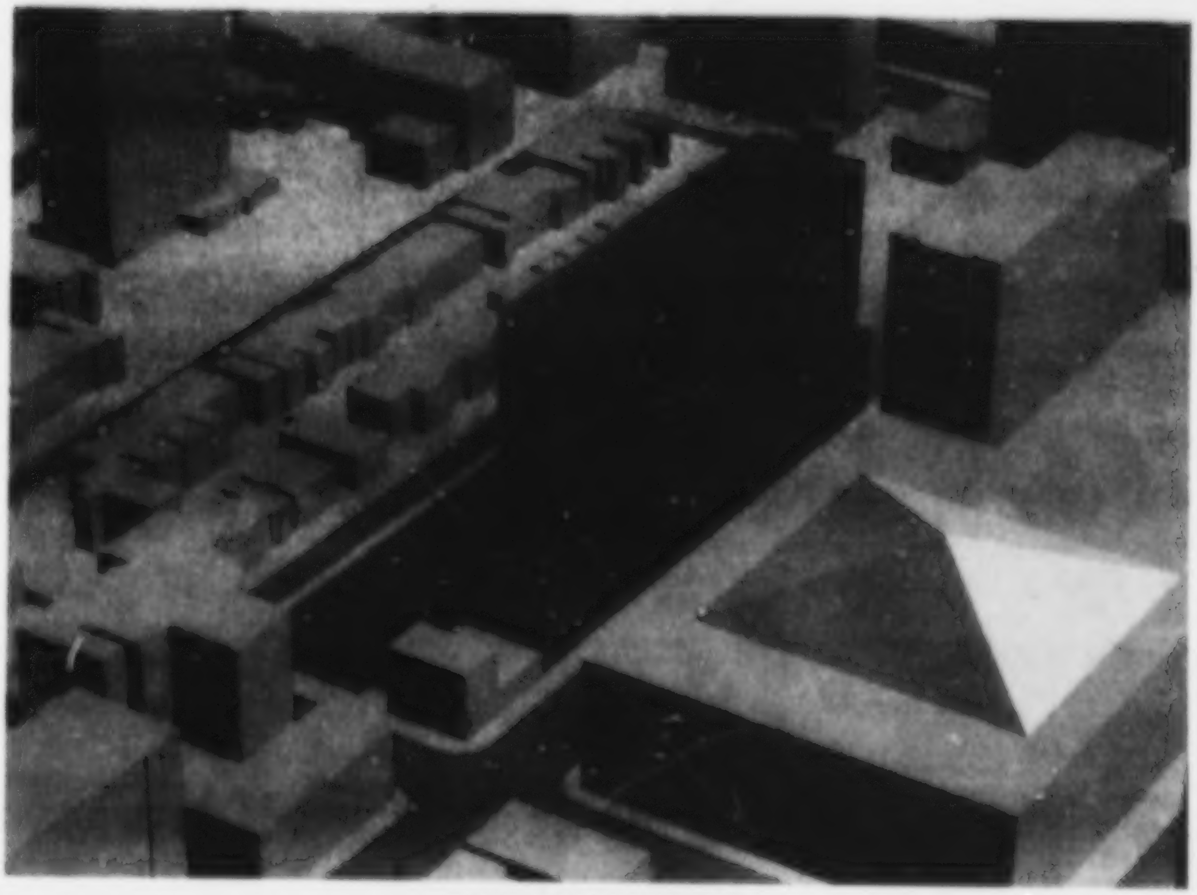
The attempts to improve the conditions at grade by means of minor landscape setbacks and massing erosion has not been successful. The extent of the frontage dedicated to service and parking entry is excessive.

4. Open Space and Recreation

The public open space at grade consists of a minor setback from the lot line. This space is very small, minimally landscaped and suffers poor microclimatic conditions due to "canyon" effect of slabs on the street.

The children's outdoor play space is inadequate. On a paved surface wedged between buildings, it receives very little direct light. The roof top deck is a barren space with no windbreaks.

The indoor recreation space consists of a number of small, unequipped rooms. The space might have been consolidated into larger, more useful rooms.



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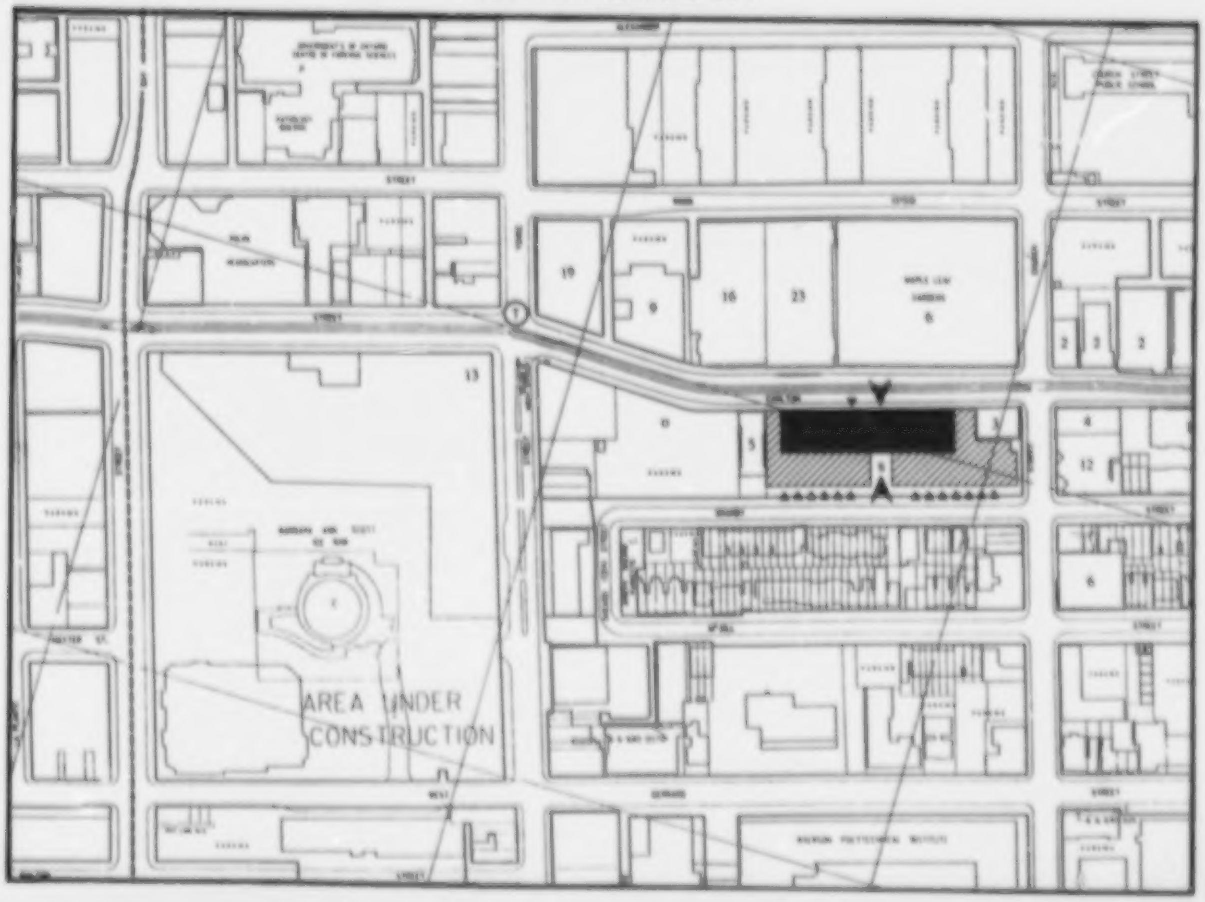

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CHURCH STREET PUBLIC SCHOOL
GERRARD
STREET

1. PROJECT DESCRIPTION AND DATA

Name and Address: The Lexington 45 Carlton St. 38-80 Granby St.	Lot Area: Large 7,208 m^2	Frontages: Carlton - Major Granby - Major Church - Minor	Lot Description: 1/2 of Large Long Block
Neighbourhood:	East: Carlton, low to high-rise, commercial and residential West: Yonge St., College Park, low to high-rise, commercial, residential, retail South: Low, medium and high-rise residential, commercial, Ryerson North: Maple Leaf Gardens and high-rise residential		
Project Description:	20 storey residential building with retail at grade, (321 units) and 22 townhouses fronting on Granby Street for a total of 343 units		
Project Data			
No. of Units: Proposed: 343 Permitted: 345	Residential GFA: 50,787 m^2	Density	7.0
Tenure: Condominiums			
Density in UPH: 476	Non-Residential GFA: 4,631 m^2	Density	0.6
Average Unit Size: 148 m^2	TOTAL GFA: 55,418 m^2	Density	7.7
Residents under 20 Years: 6%			
Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative) 1. high rise apartment 2. townhouse 3.	1. Bachelor: 1 bedroom: 34 2 bedroom: 287 3 + bedroom: Total 321	2. Bachelor: 1 bedroom: 2 bedroom: 3 + bedroom: 22 Total 22	3. Bachelor: 1 bedroom: 2 bedroom: 3 + bedroom: Total

Total Personal Recreation Space	Proposed:	
	Required:	
Total Shared Recreation Space	Provided: 2,657 m^2	
	Required:	Proposed Height: 76 m
TOTAL RECREATION SPACE	Proposed:	Permitted Height:
	Required:	
Landscaped Open Space (publicly accessible)	Proposed: 1,875.7 m^2 roof garden	Height Setbacks:
	Required:	
Parking: 383 indoor; garage in all 22 townhouses Required: 285		
Lot Coverage: 4,263/7,208 = 59%		

2. PLANNING REVIEW

Application Type, Date and Status:	Application 39027 Re-zoning 1979	
Planning Controls		
Underlying Official Plan Designation:	Medium density mixed commercial residential area	
Underlying Zoning District:	CR L2 UPH 350 (from UPA 140) Central Area Plan : CR L2 UPH 474 (from UPA 192)	Mixing Formula Constant: 5.3
Underlying Height Limit:	23.0 m / by-law 603-79 76.2 m	
Committee of Adjustment:		

Site Specific Zoning:

Required since the length of the building frontage on Carlton exceeded the maximum permitted frontage
Portions of the apartment building extended into the area with the Granby St. height limit (39') & so exceeded the height limits

Site Specific Official Plan Amendment:

Section 11.19 of O.P.

Site specific OPA permitted commercial/residential mixing formula of 5.3 provided the commercial density does not exceed 2.0 and the residential density does not exceed 480 uph

Issues Illustrated by Case Study during Planning Review:

Density complied

Site and Project Considerations during Planning Review: (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- Overshadowing of buildings on south side of Granby reduced by inclusion of the townhouse component
- Possible future assisted housing component - not a commitment
- Traffic concerns

3. BUILDING SURVEY

- Building type	Double-loaded high-rise slab parallel to the street on top of a two storey podium Row houses that back into the slab
- Building footprint	Most of lot
- Location on lot	To lot line on Carlton with setback on ground floor; only 20 feet setback on Granby for row houses. Small setback on Church
- Height (s) in floors	20 floor slab 3 floor row houses
- Height setbacks	none
■ Entrances:	
- Building	Residential lobby on Carlton - clear Entrances to each townhouse on Granby - clear
- Parking	Off Church - ramp is within envelope of building - doors
- Service	In mid-block drive through, open air, at grade
■ Street Relationship:	
- Building Edge	To street on Carlton - no setback - 20 floor street - putative arcade
- Landscaping	Big setback for townhouses - driveways and front yards - not as street related as older residential None for high rise - small trees in sidewalk
- Height of Ground Floor	Front yard landscaping for townhouses 10 feet on Carlton - 8 feet on Granby
- Uses at Grade	Retail on Carlton, service on Church Residential on Granby

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Recreation	Private front yards on Granby These units have no rear yards, and seem to be single aspect (verify)	Large	Conventional suburban design (inappropriate)	Driveway and lawn	Okay
	None for high rise except 3rd floor units have dark balcony on Carlton	Minimal		Minimal	Okay
- Parking	Some temporary, at grade, in service drive				

	Location	Extent	Design	Use	Maintenance
■ Interior Common Facilities:	Note: whole 2nd floor devoted to common facilities				
- Recreation	2nd floor, roof and podium gardens	squash, indoor track, indoor pool, ping-pong, billiards, outdoor decks on roof and 3rd floor podium, exercise room	all nice, spacious	all but the party room are used regularly	well maintained
- Meeting Space	2nd floor	2 large party rooms (about 1,200 s.f. each), lounge,hobby room	majority of spaces have excellent day lighting (windows over Carlton)	use of party room requires $250 rental fee	well maintained
- Other	2nd floor	lending library			well maintained
- Non-Residential Uses	retail at grade, but separate ownership and operation				
- Parking	all underground	2 levels 35 visitor stalls		always close to full	
- Service	service lane under building running at-grade from Carlton	for moving and deliveries -bike storage for residents there	seems to work well	open 6 am to 5 pm - always busy	well maintained

4. ISSUES RAISED

1. Mixed Use

This project is predominantly residential with street-related retail on the major street. The second floor appears to be designed as commercial (windows that don't open), but is in fact recreation space.

2. Density

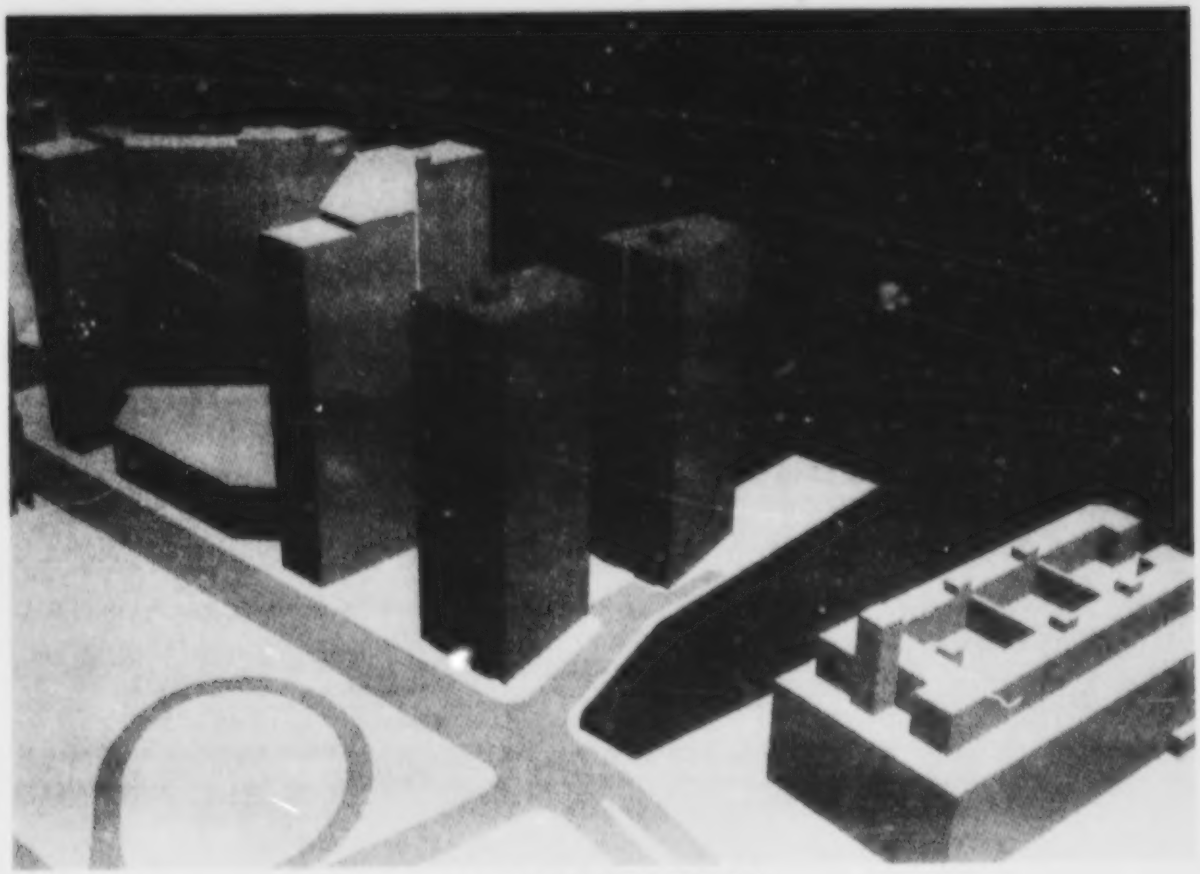
A study of alternative massings should be made to test whether the density is appropriate to the lot.

3. Context Relations

By placing townhouses with deep front yards on Granby, the design loads the density into one of the longest high-rise slabs in the city. This slab overshadows Carlton. At the same time, the long driveways and deep setbacks of the townhouses are inappropriate to the pattern of buildings on Granby and isolate the houses from the street. The blank wall facing onto Church is similarly inappropriate. The service route through the block is unnecessarily extensive and prominent; it interrupts the continuity of the street.

4. Open Space and Recreation

The principal recreation spaces in this building are large and have excellent daylight exposure. The roof deck is badly broken up by mechanical fans and equipment which are both noisy and unattractive.



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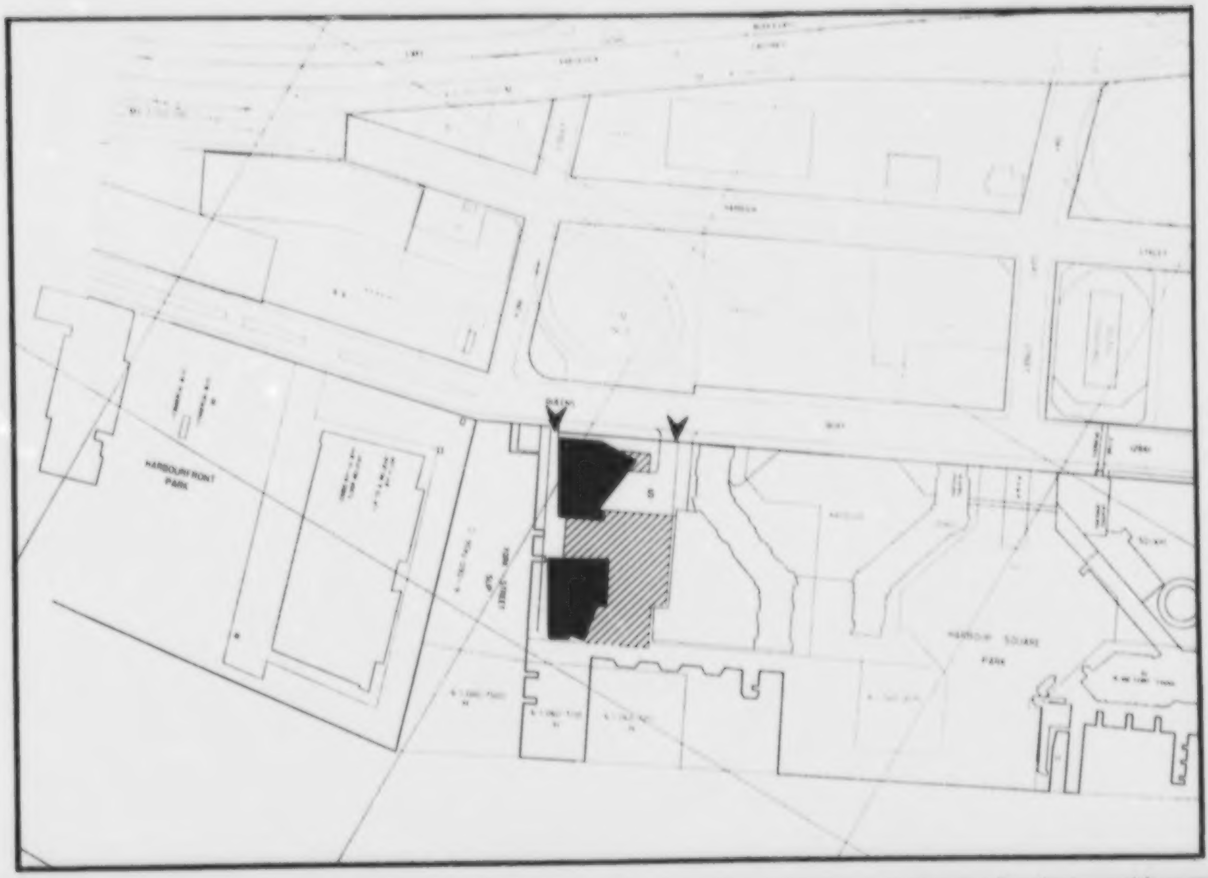
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1. PROJECT DESCRIPTION AND DATA

Name and Address: Number One York Quay 77-99 Harbour Square	Lot Area: Large 9,446 m^2	Frontages: Major - Queens Quay Minor - York Slip - Waterfront Park	Lot Description: End of block

Neighbourhood:	East:	Harbour Castle, Bay Street, high-rise residential and commercial. Ferry Terminal
	West:	Harbourfront - low-rise community uses - medium to high-rise residential and hotel
	South:	Harbour
	North:	Harbour Commission lands, Gardiner/Lakeshore, CBD

Project Description: 2 condominium towers containing 812 units and a parking podium with recreation space on top. 450 m^2 of retail space subject to minor variance being granted. If not granted, then space used for lobby and bicycle storage.

Project Data

No. of Units: 812	Residential GFA: 78,843 m^2	Density 8.3
Tenure: Condominiums		
Density in UPH: 860	Non-Residential GFA: 21,598 m^2	Density 2.3
Average Unit Size:	TOTAL GFA: 100,441 m^2	Density 10.6
Residents under 20 Years: n/a		

Breakdown by Type by Building: (e.g. high rise condo, townhouse, low rise co-operative) 1. North Tower 2. South Tower 3. Terraced Units	1. North Tower		2. South Tower		3. Guest Suites		Terraced Units
	Bachelor:	104	Bachelor:	93	Bachelor:	3	Bachelor:
	1 bedroom:	227	1 bedroom:	205	1 bedroom:	1	1 bedroom:
	2 bedroom:	78	2 bedroom:	91	2 bedroom:		2 bedroom: 6
	3 + bedroom:	2	3 + bedroom:	2	3 + bedroom:		3 + bedroom:
	Total	411	Total	391	Total	4	Total 6

Total Personal Recreation Space	Proposed:	
	Required:	
Total Shared Recreation Space	Proposed: 1,719 m^2	
	Required:	
TOTAL RECREATION SPACE	Proposed:	Proposed Height: north 112.7 m, south 115.4 m
	Required:	Permitted Height: north 115 m, south 112 m (1982 Building Scheme Agreement)
Landscaped Open Space (publicly accessible)	Proposed: 4,386 m^2	
	Required:	Height Setbacks:
Parking:	955 indoor	
Lot Coverage:	4,082/9,446 = 43%	

2. PLANNING REVIEW

Application Type, Date and Status: Development Review, September 8, 1987	
Planning Controls	
Underlying Official Plan Designation: Central Waterfront Plan:	
Underlying Zoning District: C1 V2 (7x coverage) Map 50G-313	Mixing Formula Constant: Not applicable
Underlying Height Limit:	
Committee of Adjustment:	

Site Specific Zoning:

By-law 255-69 as amended by By-laws 263-69 and 214-82
By-law 508-84

Site Specific Official Plan Amendment:

Designated "Harbour Square Lands" Part 1 Official Plan, Section 5.18 (a)(1)

Issues Illustrated by Case Study during Planning Review

Site and Project Considerations during Planning Review: (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- a public water's edge would be provided along York St. slip
- historic R.C.Y.C. Building would be relocated immediately west of site by developer
- cash payment to City in accordance with Council's "1% for art" policy directive
- cash payment in lieu of parkland, equivalent to 5% of land to be developed

3. BUILDING SURVEY

- Building type	Two point towers with structured parking garage
- Building footprint	95% of lot (approximately)
- Location on lot	Minor setback on Queen's Quay for tower - garage is set far back. Setback from York Slip for driveway and drop-off court
- Height (s) in floors	North - 36 South - 40 Garage - 6
- Height setbacks	None, but small ground floor extension on Queen's Quay
■ Entrances:	
- Building	Main entry is also vehicular drop-off on York Slip, not on street. Driveway along entire York Slip edge.
- Parking	6 storey garage entered from north service court or south side driveway
- Service	Small courtyard on south side, large courtyard on north side
■ Street Relationship:	
- Building Edge	Minimal retail edge on Queen's Quay - large service court on the street. Driveway dominates York Slip and south edge
- Landscaping	Minimal - small trees on York Slip
- Height of Ground Floor	10 feet (approximately)
- Uses at Grade	Minimal retail at Queen's Quay, Extended lobbies on York Slip, vehicular drive and parking on south side

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Water's edge, Waterfront Park	Size okay Not implemented	Minimal	Minimal	
- Common					
sundecks	around pool on 8th floor above parking garage				
patio and running -track	8th floor	very spacious	well landscaped	yes	good
- Private	Some balconies	Small - south and west sides only	Okay	Variable	
- Parking	Some in service court at grade, and short term drop-off				

	Location	Extent	Design	Use	Maintenance
■ Interior Common Facilities:					
- Lobby	one lobby for two towers	spacious	confusing corridors to get to elevators		good
- Recreation					
weight room	8th floor	150 m^2 approx.	not fully equipped	yes	good
squash court	8th floor	2 courts		frequent	good
aerobics room	8th floor	200 m^2 approx.		scheduled classes	good
swimming pool /whirlpool	8th floor	large complex/ indoor-outdoor		yes	good
saunas	in changerooms	comparatively large		yes	good
billiards room	8th floor	21 m^2 approx.	well equipped	yes	good
beauty salon	8th floor	aesthetician hair dresser 2 masseuses 2 tanning benches	small rooms	not yet	good
- Meeting Space					
board room	ground floor	100 m^2 approx.	well equipped	corporation meetings	good
party/meeting rooms	10th floor	100 m^2, 60 m^2	with bar and kitchen service	yes	good
- Other					
dining room	10th floor	87 seats	well equipped with kitchen	not open yet	good
library/card room	10th floor	36 m^2 approx.	well equipped	infrequent	good

	Location	Extent	Design	Use	Maintenance
- Non-Residential Use	- property management office on ground floor - 5 stores at grade on Queen's Quay				
- Parking	6 storey garage and 3 levels below grade	1 space/du			
- Service					
laneway	extensive ring road network		access to building is not clear		
loading entrance	separate access				

4. ISSUES RAISED

1. Mixed Use

This is essentially a single use project (residential) with a very minor retail component, despite the fact that the location would appear to support both retail and office. The lack of other uses has created a very neutral condition at grade with respect to the important public water's edge route.

2. Density

These two towers complete the high-rise, high density, monolithic Harbour Square complex. This is by far the densest and tallest project on the waterfront. This density has resulted in a building form that creates undesirable environmental conditions and is visually overwhelming.

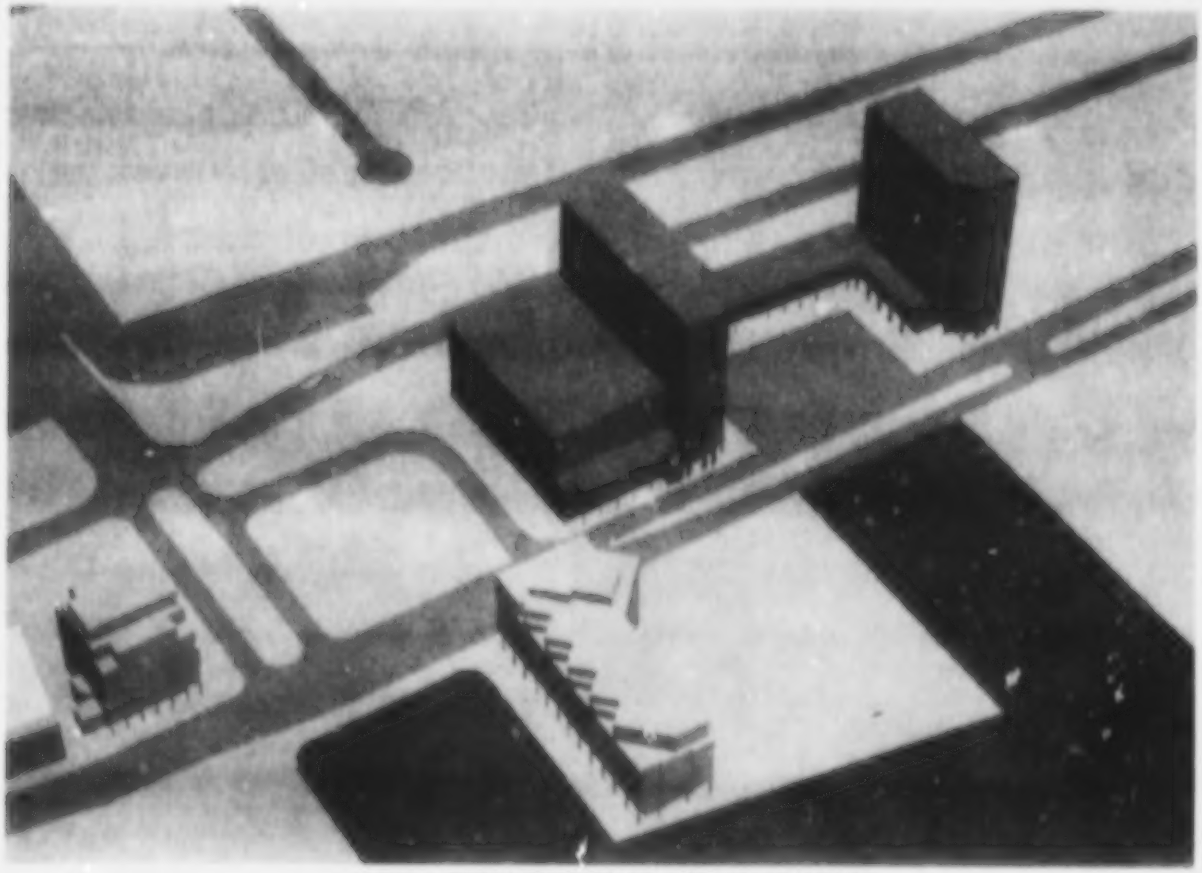
3. Context Relations

The buildings are not street related. The extensive driveway along York Quay separates the pedestrian water edge route from the building edge. The building does not offer anything public at grade, except a small retail component on Queen's Quay. The entrance is not located on the street. The service area on Queen's Quay is too exposed to the public.

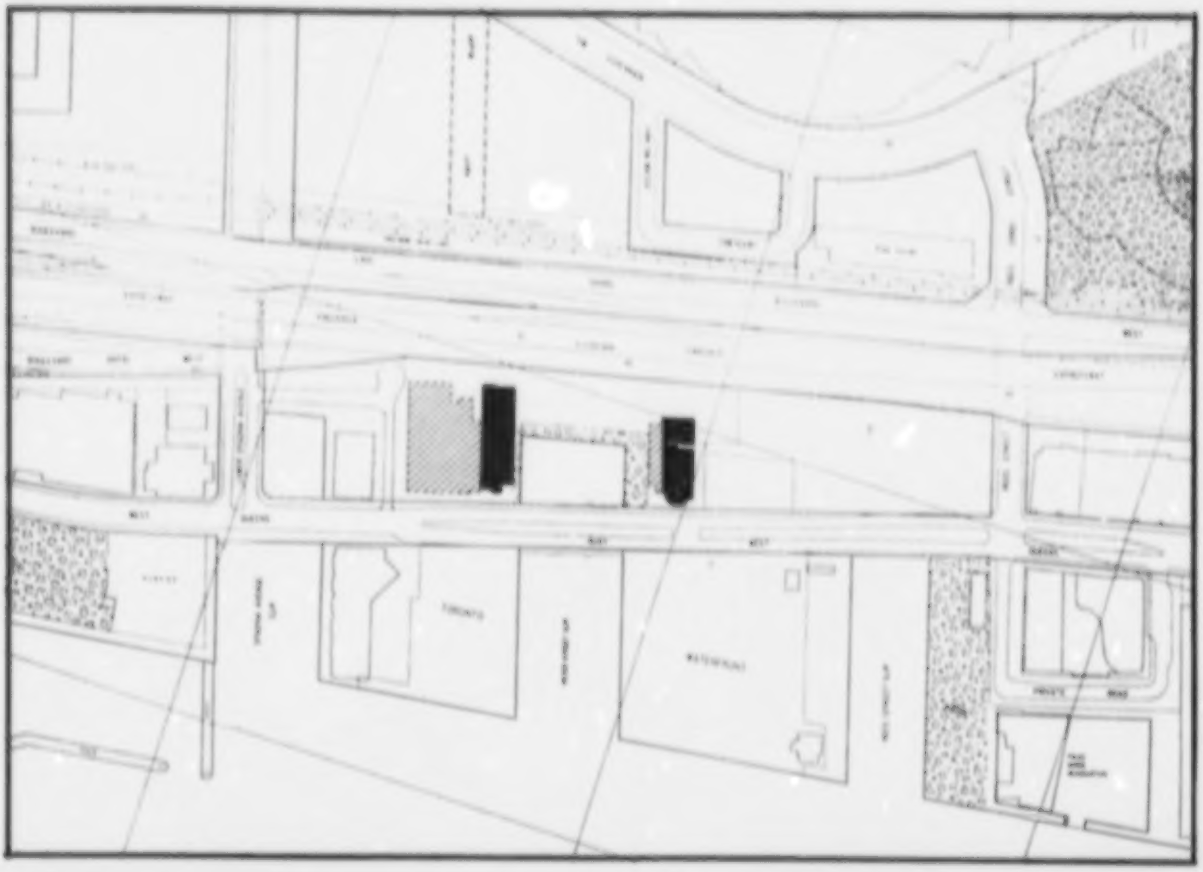
The towers are excessively tall, too close together, without vertical setbacks and without scale modulation.

4. Open Space and Recreation

The public open space at the water's edge is minimally landscaped and not very inviting.



350 - 390 QUEEN'S QUAY WEST



1. PROJECT DESCRIPTION AND DATA

Name and Address: 350-390 Queen's Quay West	Lot Area: Large 11,537 m^2	Frontages: Queen's Quay Lakeshore/Gardiner	Lot Description: 1/2 block to either side of Peter Street Slip

Neighbourhood:	East:	Harbourfront - high-rise residential - medium-rise hotel and mixed-use community programming
	West:	Spadina Quay, Harbourfront - medium-rise residential, some commercial
	South:	Waterfront - medium-rise condominium - future park
	North:	Lakeshore Boulevard, Gardiner Expressway, Dome Stadium and CN Tower, future railway land development - high density commercial

Project Description:	Two 21 storey rental residential towers on either side of Peter Street slip basin and a 5 storey retail/parking structure to the west of the west tower. First 2 floors of the residential and retail structure to be used as retail.

Project Data

No. of Units: 502 Tenure: Rental	Residential GFA: 33,586 m^2	Density: 2.9
Density in UPH: 435	Non-Residential GFA: 22,662 m^2	Density: 2.0
Average Unit Size: Residents under 20 Years: 24%	TOTAL GFA: 56,248 m^2	Density: 4.9

Breakdown by Type by Building: (e.g. high-rise condo, townhouse, low-rise co-operative) 1. East Tower 2. West Tower 3.	1.		2.		3.	
	Bachelor:		Bachelor:		Bachelor:	
	1 bedroom:	114	1 bedroom:	170	1 bedroom:	
	2 bedroom:	86	2 bedroom:	116	2 bedroom:	
	3 + bedroom:	16	3 + bedroom:		3 + bedroom:	
	Total	216	Total	286	Total	

Total Personal Recreation Space	Proposed:	3,226 m^2	
	Required:	4,093 m^2	
Total Shared Recreation Space	Proposed:	4,835 m^2	
	Provided:	3,627 m^2	
	Required:		
TOTAL RECREATION SPACE	Proposed:	8,061 m^2	Proposed Height: 21 storeys
	Required:	10,816 m^2	Permitted Height:
Landscaped Open Space (publicly accessible)	Proposed:		
	Required:		Height Setbacks:

Parking:	Proposed	Actual	Required
	353 inside	360 inside	398 Phase I
	65 outside	58 outside	33 Phase II
Total	418	418	431

Lot Coverage: 4,758/11,537 = 41%

2. PLANNING REVIEW

Application Type, Date and Status:	Development Review Application 385121 for Phase I, May 5, 1986	
Planning Controls		
Underlying Official Plan Designation:	Mixed Use Area D	
Underlying Zoning District:	Harbourfront Zoning By-law 569-80	Mixing Formula Constant: not applicable
Underlying Height Limit:		
Committee of Adjustment:	Approval of project conditional to CA's granting variances for deficient recreation space and excess gross floor area	

Site Specific Zoning:

By-law 569-80

Site Specific Official Plan Amendment:

Required before development approval of the Phase II retail link building can be given in accordance with the approved sub-area plan.

Issues Illustrated by Case Study during Planning Review

- Personal recreation space in the form of enclosed balconies and/or sunrooms as proposed by the applicant is deficient.
- Area "D" maximum permitted gross floor area of 86,334 m^2 exceeded by 5,049 m^2

Site and Project Considerations during Planning Review: (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

3. BUILDING SURVEY

NOTE: Project construction and landscaping are incomplete.

- Building type	Two parallel double-loaded high-rise slabs with a low-rise connecting building, forming a courtyard around a slip of water Abutting medium-rise garage; future retail link, low-rise
- Building footprint	Extent of property is not clear
- Location on lot	Minor setback on street for wider sidewalks, rear setback for service Setbacks on slip for public terrace, side yard on east of #350
- Height (s) in floors	#390-21 Garage - 6 #350-20
- Height setbacks	None
■ Entrances:	
- Building	Residential lobbies located at rear, not at street Retail entrances not clear
- Parking	Off small road around #401 Queen's Quay
- Service	Along north side, competition for loading dock with antique market
■ Street Relationship:	
- Building Edge	Garage has Antique Market with arcade at grade. Residential slabs have irregularity shaped edges on Queen's Quay with mysterious stairs and arcades
- Landscaping	None
- Height of Ground Floor	About 9 feet
- Uses at Grade	Two floors of retail at #350, use not clear in #390 Garage has Antique Market at grade

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Water's edge walkway	Good size	Not yet	Not yet	Not yet
- Common	Roof decks		Sterile, noisy (Gardiner Expressway)	Rare	Minimal
	Children's space above parking		Minimal equipment, at level of Gardiner Expressway, locked (use discouraged)	Rare	
- Private	None				
- Parking	Not at grade				

	Location	Extent	Design	Use	Maintenance
■ Interior Common Facilities:					
- Recreation	Sauna in each slab building	Small 400 square feet (approx.)	Not finished Window, bare	Minimal Restricted by management	OK
	Recreation rooms - East - West	 80 m^2 18 m^2	No window, bare	Restricted by management	Minimal
	Exercise Rooms			Not much used due to required $200 deposit	
	Lockers on each floor	Small		Well used	Security complaints
- Non-Residential Uses	Retail proposed for 1st two levels, but non-existent at present				
- Parking	Garage adjacent to #390 very distant for #350	6 storeys	Mediocre appearance		
- Service					

4. ISSUES RAISED

1. Mixed Use

When completed, this project will be mixed retail at grade and residential above. The retail will be related to the pedestrian water's edge promenade around the slip. This mixture is appropriate to the location. However, entrances to the residential components are not clearly located and are not street related. The sharing of parking facility has resulted in user-pay visitor parking. And the sharing of the loading facility creates competition between the retailers and the residents.

2. Density

There are no apparent problems of density.

3. Context Relations

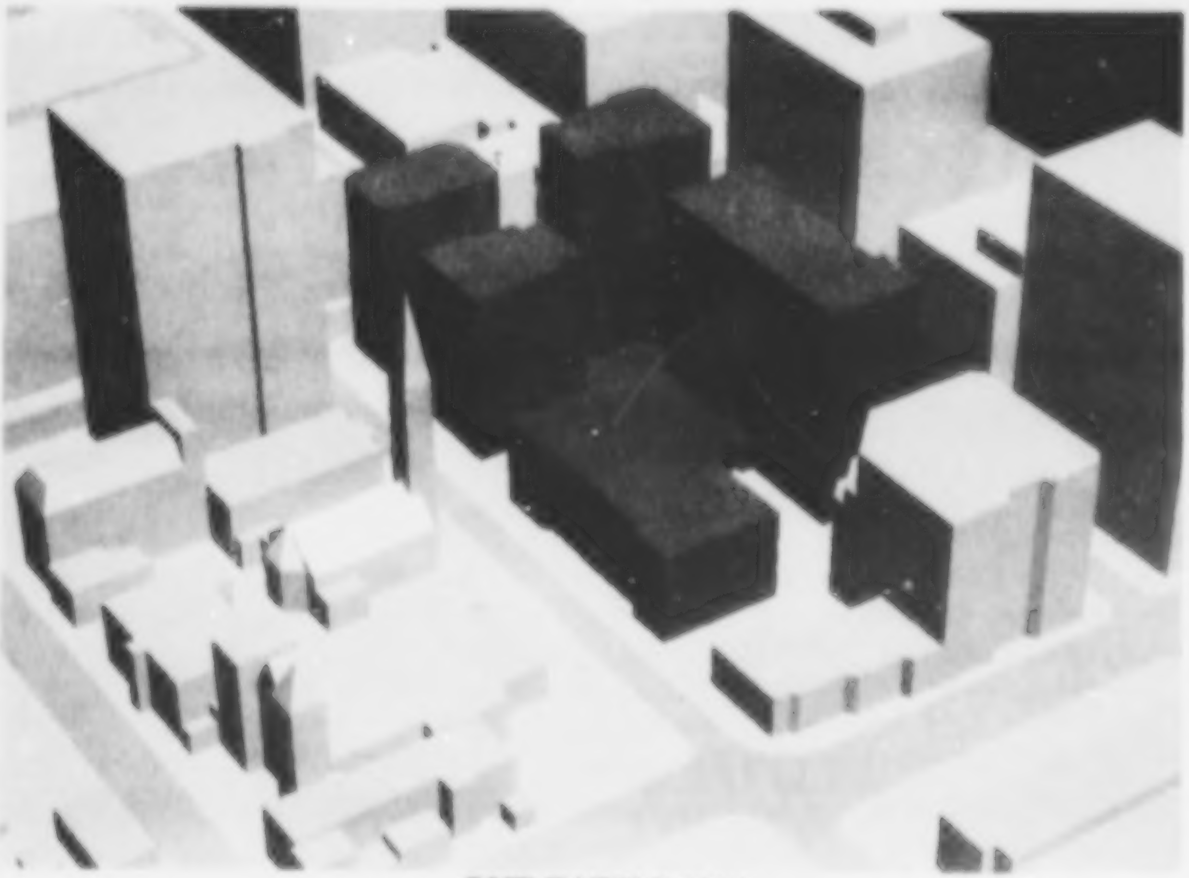
While the spacing of the high-rise slabs is appropriate, the absence of vertical setbacks or podia creates excessively tall building walls which create wind problems, especially at entrances, and are visually overwhelming.

Where the slabs meet the street there is a confusion of partial arcades, stairs both up and down and doors into indeterminate spaces.

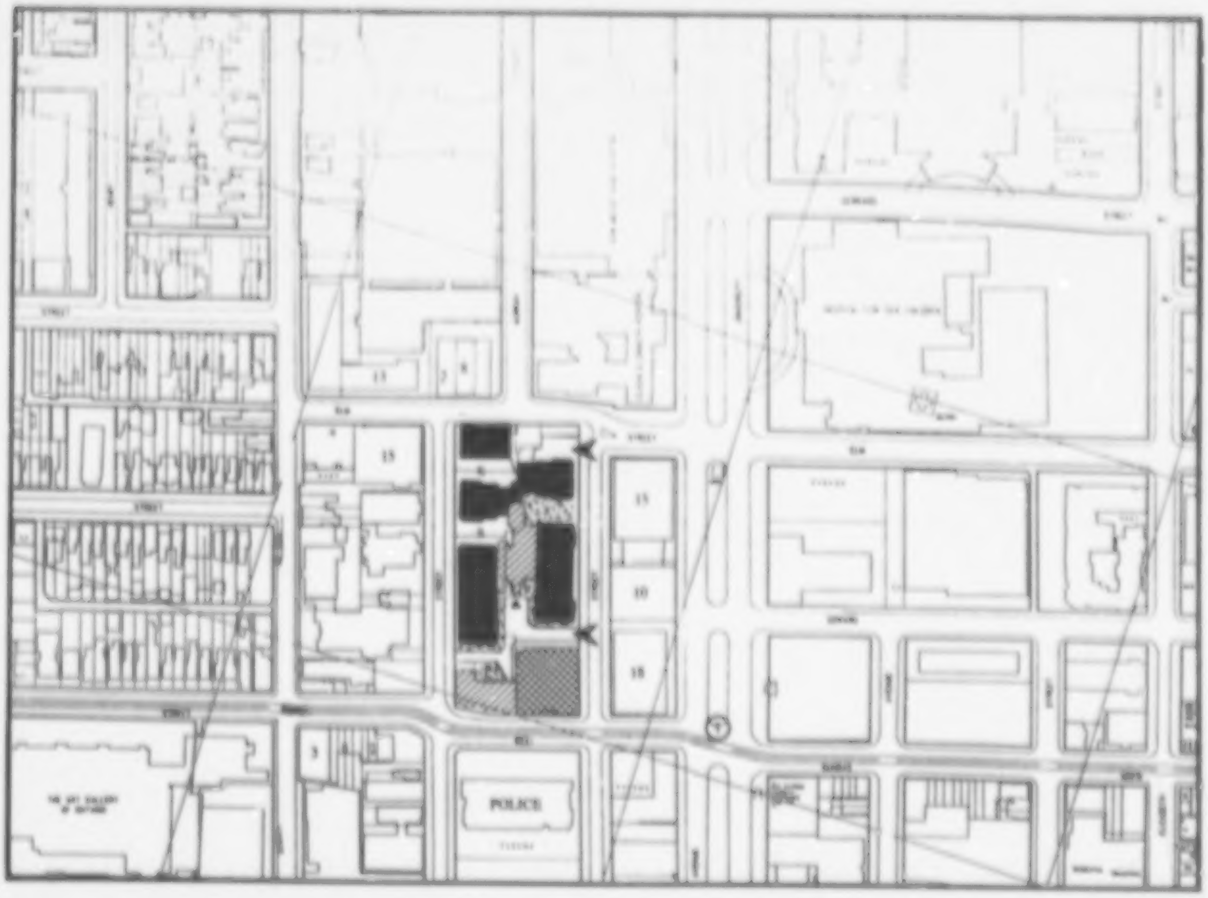
4. Open Space and Recreation

The public open space around water's edge is incomplete and fenced off. The common space, including roof decks and children's play area above the parking garage, is barren and minimally equipped. The location of the children's play area across from the Gardiner Expressway is inappropriate.

The indoor recreational facilities consist of small unequipped residual spaces.



ONE PARK LANE



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3
POLICE

I. PROJECT DESCRIPTION AND DATA

Name and Address: 1 Park Lane 280 Simcoe Street 195 + 211 St. Patrick Street, 175 Elm Street, 250 Dundas Street West	Lot Area: Large 3/4 of block 11,749 m^2	Frontages: Simcoe Street St. Patrick Street	Lot Description: Through - block Mid - block
Neighbourhood:	East: University Avenue commercial district West: Low-rise residential neighbourhood, Art Gallery of Ontario, high-rise Michener Street South: Commercial and retail on Dundas, police station, high-rise residential and commercial North: Charles Hastings Co-op & low-rise retail on Elm, Queen Elizabeth and Mt. Sinai hospital; high-rise residential, institutional and commercial		
Project Description:	Mixed office/retail/residential 6 Buildings - 4 office - 2 residential		
Project Data			
No. of Units: 446	Residential GFA:	58,205 m^2	Density 5.0
Tenure: Condominiums			
Density in UPH: 380	Non-Residential GFA:	12,489 m^2	Density 1.1
Average Unit Size: 150 m^2	TOTAL GFA:	70,694 m^2	Density 6.0
Residents under 20 Years: 7%			
Breakdown by Type by Building: (e.g. high-rise condo, townhouse, low-rise co-operative) 1. Assisted 2. Private 3.	1. Bachelor: 1 bedroom: 28 2 bedroom: 63 3 + bedroom: Total: 91	2. Bachelor: 1 bedroom: 83 2 bedroom: 272 3 + bedroom: Total: 355	3. Bachelor: 1 bedroom: 2 bedroom: 3 + bedroom: Total

Total Personal Recreation Space	Proposed:	
	Required:	
Total Shared Recreation Space	Provided: 190 m^2 at 175 Elm, other buildings n/a	
	Required:	
TOTAL RECREATION SPACE	Proposed:	Proposed Height
	Required:	Permitted Height
Landscaped Open Space (publicly accessible)	Proposed: 49.3% of site area	
	Required: 50%	Height Setbacks
Parking: 532 indoor		
Lot Coverage: 6,179/11,749 = 53%		

2. PLANNING REVIEW

Application Type, Date and Status: - Rezoning - Exemption from Core Area Holding By-law - 1975	
Planning Controls	
Underlying Official Plan Designation: Institutional Area, although SE Spadina Study was recommending Mixed Use	
Underlying Zoning District: C2V2 (5x lot area) and Criteria for exemption from Core Area Holding By-law	Mixing Formula Constant: 4.0
Underlying Height Limit: 45 feet (Holding By-law)	
Committee of Adjustment:	

Site Specific Zoning:

By-laws 64-83, 273-83, 328-80

- complied with criteria for example from Modified Core Area Holding By-law which allowed 3x residential, 3x NRGFA; total 45 feet
- site specific required because C1 zoning doesn't allow residential above 3 storeys

Site Specific Official Plan Amendment:

- in conformity with OPA's 6 & 9 which allowed 3x residential within 12x overall density
- in conformity with proposed SE Spadina Study

Issues Illustrated by Case Study during Planning Review

- anticipated school population of 60 - 70 children
- itemizes location of parks and recreation facilities in proximity
- prior to new Central Area By-law, couldn't develop residential above commercial to more than 3 storeys
- discussion of required community services

Site and Project Considerations during Planning Review: (public benefits achieved, bulk, sun & wind conditions, streetscape uses at grade, affected buildings [height, uses], location of recreation/community facilities, other)

- proposal to include 5% under 900 + Assisted Home Ownership Plan
- provision of certain number of parking spaces as "public"

3. BUILDING SURVEY

- Building type	Double-loaded slabs with central cores - high-rise
- Building footprint	60% of site (approx)
- Location on lot	Three separate buildings around a central entry court and lobby Minor setbacks on streets (10 - 15 ft.)
- Height (s) in floors	Building A - 15 Building B - 10 Building C - 14 to 16
- Height setbacks	None
■ Entrances:	
- Building	Centralized in middle of block, access by private driveway only; driveway dominated pedestrian access
- Parking	Open ramp to underground garage off Simcoe
- Service	Main service court off St. Patrick and Elm, minor service on St. Patrick and Simcoe; all at grade, open air
■ Street Relationship:	
- Building Edge	Setback from sidewalk in landscaped "buffer" No front entrances on the street - service zone along Simcoe
- Landscaping	Large trees, considerable bush and lawn planting in landscaped setbacks - no trees in public sidewalk
- Height of Ground Floor	Typical residential - 8 ft. approx.
- Uses at Grade	Residential - private patios along streets with secondary entrances

	Location	Extent	Design	Use	Maintenance
■ Open Space:					
- Public	Mid-block entry court is semi-public	Large	Should be more public	Car drop-off, pedestrian entry	good
- Common					
sundeck	off pool	200 m^2 approx.	deck, lawn, trees and bushes	yes	good
patio	off lobby	small	no direct sun, brick	infrequent	good
roof patio	each building has its own	whole roof	minimal landscaping and furniture	infrequent	good
- Private	Patios at grade for many ground floor units - no balconies	Small	Buffer-type: low brick walls & metal railings, trees & bushes; deck, lawn, trees & bushes	No active use evident	good
- Parking	Temporary surface parking in entry court; parking is underground	4 cars maximum	Excessive circular drive; open air ramp	Some parked cars	Good

	Location	Extent	Design	Use	Maintenance
● Interior Common Facilities:					
- Lobby	one lobby in interior courtyard for all 3 buildings	very spacious	well landscaped, large skylight		good
- Recreation					
exercise room	off lobby	36 m^2	well equipped	infrequent	good
swimming pool/sauna	off lobby	pool bigger than most; separate sauna for men and women	well landscaped	frequent (many children)	good
billiard room	off lobby	48 m^2	well decorated and equipped	weekends	good
table tennis room	P1	very large		yes	good
squash court	P2	one court		frequent	good
- Meeting Space					
party/meeting room	off lobby	250 m^2	well decorated and equipped (nice furniture, kitchen)	frequent	good
- Other					
- Non-Residential Uses	none				
- Parking	2 lower levels	1 space/du		space included in rent	good
- Service laneways and separate move-in access	in back of buildings on side street		apartments look onto laneways		

4. ISSUES RAISED

1. Mixed Use

If the commercial building on Dundas is included in the consideration of the project, then the project may be called mixed use. However, the buildings are not mixed-use, and the bulk of the development is residential. The introversion of the residential complex has resulted in their front door facing the rear service of the commercial building.

Commercial might have been appropriate in the ground floor of buildings on Simcoe and St. Patrick; similarly the residential might have been allowed to come closer to Dundas. If mixed-use buildings had been employed, better urban design conditions might have been achieved, in terms of both massing and street relations.

2. Density

The tightness of the open spaces between the high-rise slabs suggests that the density may have been too great on this site to achieve amenable conditions. A study of alternative massing should be done to explore this issue.

3. Context Relations

The introversion of the residential complex is inappropriate to an urban site. The vehicular drive and drop-off is also inappropriate, as is facing the street with private patios and service areas. These buildings do not create streets. The northernmost building overshadows the properties to the north and is extremely close to them.

4. Open Space and Recreation

The public open space consists of an entranceway to inner courtyard which creates pedestrian/vehicular conflict.

The common open space at grade is well landscaped, but the rooftop is minimally landscaped with no windbreaks.

APPENDIX V

APPENDIX V

DENSITY/HEIGHT RELATIONSHIPS

1. INTRODUCTION

One of the main conclusions of the Living Downtown study is that there should be a renewed emphasis on additions and modifications to the public realm created by new development in Toronto. In particular, the City should begin to concentrate on the impacts of built form in defining this realm. Thus, a basic premise of the report is that, in order to optimize the positive contribution of new development, building heights and densities should be kept generally lower than in the past, except in those areas where higher increases are deemed appropriate, for example at points of major transit access. In such situations, and where it can be demonstrated that additional flexibility will result in an overall composition of improved built form, it is argued that urban design studies should be the basis for allowing such changes.

To implement the above objective, it is necessary to identify meaningful height-to-density relationships, and a height/density threshold, which can serve as the appropriate limit for as-of-right development permissions. The identification of an as-of-right threshold requires a balancing of objectives. Building heights and massing have a tremendous influence on the way people perceive and react to the urban environment. They create the three-dimensional definition of the public realm, and influence the microclimatic conditions within it. Up to a certain point, a sense of enclosure is desirable. However, at some point in height and mass, a continuous building wall along a street edge becomes oppressive, blocks sun penetration on open spaces, and increases the potential for uncomfortable winds. Below the threshold, it should be possible to develop individual buildings on a site-by-site basis along a street or within a district, and still retain reasonable assurance that an appropriate overall composition will be incrementally achieved. Above the threshold, a more comprehensive approach is necessary to anticipate relationships between higher and lower elements. As the first step, meaningful and realistic relationships between height and density must be determined. Then, a qualitative assessment of the buildings developed within these categories is needed as the basis for establishing a new policy direction to achieve the nature and quality of development Toronto seeks, and in order to determine the height-to-density threshold for as-of-right permissions.

The subsequent sections of this appendix cover the following: 1) the analytical exercise undertaken to identify feasible and appropriate relationships between density and height; 2) a qualitative assessment of the buildings developed within the resulting height and density relationships; 3) a policy direction respecting simple, repeatable building types; and 4) the identification of the as-of-right height and density threshold, and the case for comprehensive design plans at densities and heights which go beyond this base development threshold.

2. DETERMINING WORKABLE DENSITY AND HEIGHT RELATIONSHIPS

Without strictly enforced height limits, density controls alone do not necessarily generate appropriate urban buildings. However, limiting height in a consciously proportional relationship with permitted density is a highly effective strategic device for encouraging more suitable urban buildings and streetscapes.

As outlined in the introduction, it is necessary to determine feasible and appropriate relationships between density and height. These relationships provide the basis needed to begin to identify appropriate building types to be encouraged in future policy, and for establishing the as-of-right threshold for development.

2.1 Method

The study team began this exercise by postulating a set of height-to-bulk relationships, for floor space indices (fsi) ranging from 1.0 to 9.0, and associated heights from 3 to 25 storeys. These hypotheses, which are based upon our firm's experience, are set out in Table 1. Testing of the height-to-bulk hypotheses was carried out using a data set prepared by the Research and Information Section of the City's Policy and Strategic Planning Division. This data set contained information on all mixed-use and wholly residential buildings with 10 units or more in the City of Toronto. There was also a data subset dealing only with those buildings within the Central Area[1]. Specifically, both data sets contained the following information for each building: density; number of storeys; total floor area; number of residential units; lot area; ground floor area; total, residential and non-residential fsi; number of units per hectare; and date of construction. Our analysis of the data focused on the buildings within the Central Area. We did however compare the findings from the Central Area to those of the City as a whole in order to ensure a higher degree of reliability.

TABLE 1
Hypothesized Height and Density Relationships

FSI[2]	Height (in storeys)
1.0	4
2.0	6
3.0	8
4.0	10
5.0	14
6.0	17
7.0	22
8.0	22
9.0	27

---

[1] *The "east wing" and "west wing" extensions to the Central Area were eliminated from this data set. Multi-building projects were also included.*

[2] *It should be noted that the definition of fsi used in this appendix is the same as that in the zoning by-law, except that it includes all building bulk above grade.*

In essence, the hypothesized height-to-bulk relationships were tested by determining the proportion of buildings which fell within the postulated relationships for each density category. An assessment was also made of the height distribution of the remainder of buildings in each density category. As outlined above, the results of the analyses from the Central Area data subset were then verified against the data set for the City as a whole.

The next step in the exercise involved photographing all of those buildings which fell within the hypothesized height-to-density relationships, and assembling preliminary context maps showing each building's relationship to its lot and its surroundings. Based on this graphic information, approximately five buildings were chosen as examples from each density/height category.

The choice of these example buildings had the objective of demonstrating that the postulated height-to-bulk relationships are flexible enough to provide for the development of a variety of architectural solutions within a range of acceptable building types. Such variety is extremely important, since it would not be appropriate to recommend height-to-bulk relationships that would result in all buildings within a given category taking only one form due to the lack of flexibility in the way that the density could be deployed. It should, however, be emphasized that the exercise was not intended to be a statistically significant one.

2.2 Results of the Analysis

An important conclusion of the analysis is that, in 8 out of the 9 categories, the hypothesized height-to-bulk relationships were proven to be feasible. The only exception was in the 1.0 fsi/4 storey category. There are three residential buildings in the Central Area with a density of 1.0, and only one has a height of 4 storeys of less.

In the 2.0, 3.0, 4.0 and 5.0 times density categories, roughly half of the buildings in the Central Area fall within the applicable hypothesized height limits. In the 6.0 to 9.0 times density categories at least three-quarters of the buildings in the Central Area fall within the hypothesized height limits. In all instances, the proportion of buildings in the City as a whole which fall within these limits is even greater, which increases the general applicability of the conclusions.

Specifically, in the Central Area, there are 20 buildings in the 2.0 fsi category, 10 of which are 6 storeys or less. In the 3.0 fsi category, there are 64 buildings, 30 of which are 8 storeys or less. In the 4.0 fsi category, there are 67 buildings, 39 of which are 10 storeys or less. There are 21 buildings in the 5.0 times category, 12 have 14 storeys or less. In the 6.0 times density category, there are 10 buildings, 7 are 17 storeys or less. In the 7.0 fsi category, there are 13 buildings, all are 22 storeys or less. In the 8.0 times category, there are 13 buildings, 11 have 22 storeys or less. Finally, in the 9.0 times category, there are 6 buildings, 5 of which are 27 storeys or less.

It is important to note that in each of these categories, there was a good range in built form and building types, as discussed in greater detail in the following section.

It is important to note that our analysis of the above data also demonstrated that there were a significant number of "extreme" buildings which had heights that were completely disproportionate to their fsi. For instance, there were two examples of 22 storey buildings with an fsi of less than 2.0; two buildings with an fsi of less than 3.0 that were 25 storeys; and buildings at 27 and 29 storeys in the 4.0 fsi category. Such extreme examples clearly demonstrate the importance of height limits with a predictable relationship to density in order to ensure some degree of confidence with regard to potential built form.

In conclusion, it is in fact possible to establish a series of predictable relationships between height and density. Appropriate height and density pairings can thus become the basis of new as-of-right development provisions.

3. IDENTIFYING APPROPRIATE BUILDING TYPES

It is important that Toronto attempt to increase the likelihood of appropriate built form in new development by implementing as-of-right height and density permissions at certain specified levels. The City must however have assurance that these height and density pairings permit sufficient flexibility for resultant built form. As such, it is the purpose of this portion of the appendix to demonstrate that such flexibility does exist, through the identification of several building types which are appropriate for new as-of-right development. The basic premise is that buildings and their related open spaces are the essential elements of city form. If building types are appropriate, their repetition and aggregation create clear and desirable relationships between the public and private realms.

As discussed in Chapter 4 of the report, Toronto's older residential neighbourhoods have been developed with reasonably consistent building types. This has provided them with the cohesion that makes them successful environments. Achievement of these characteristics is an important objective for the City's mixed-use districts as well. As such, the City of Toronto must now develop a new and expanded typology to guide new development in its mixed-use districts. The analytical exercise described in the subsequent sections of this appendix suggests that an expanded mid-scale typology can be built around three essential building types, which are illustrated in the examples set out below.

3.1 Establishing the Building Typology

The results of our analysis of the sample buildings demonstrate that several appropriate, consistently repeatable building types can be identified in the 2.0 fsi/6 storey; 3.0 fsi/8 storey; and 4.0 fsi/10 storey categories. These types occur across the three density and height categories, and are represented by both older and more contemporary buildings. Beyond the 4.0 fsi/10 storey level, this repeatability of appropriate building types no longer exists.

Three repeatable building types have been selected from the analysis. They are described in the following sections.

The Perpendicular Bar Type

The general characteristic of this building type is its rectangular shape or footprint, and the fact that it is the narrow profile of this footprint which is presented to the street. The narrow frontage of this type has the advantage of being highly compatible with a low-rise or mixed-scale streetscape.

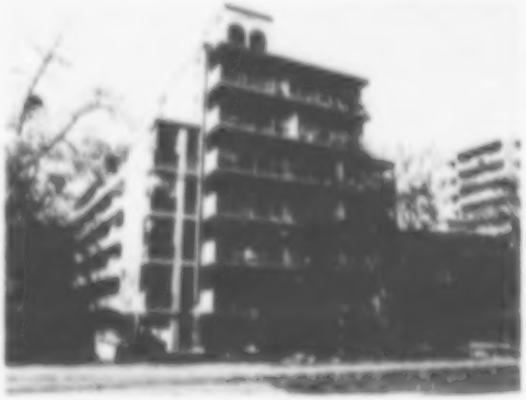
Older examples of this type tend to have very minimal side yard setbacks, which may in some instances, if pushed too far, create problems with privacy. Side yards therefore become especially important for this building type. Appropriate rear yard setbacks must also be maintained, and wherever possible, efforts should be made to avoid having blank (i.e. windowless) end walls.

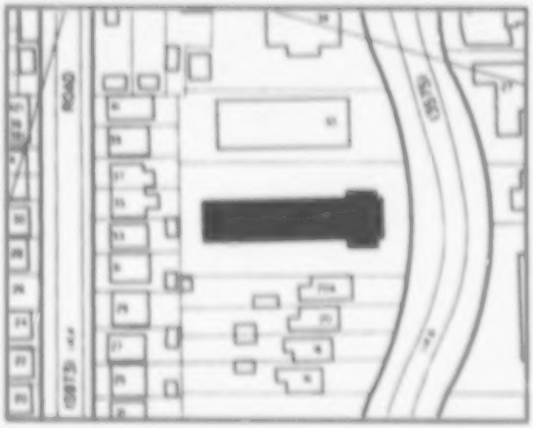
An interesting variation of this building type involves the widening out of the front (and sometimes rear) elevation, to create a hammerhead or "I" effect. This highly successful adaptation has the advantage of strengthening the relationship to the street by widening the building "face", while providing larger side yard setbacks for the remainder of the building depth.

The perpendicular bar type is exemplified by the following buildings: 6 and 8 St. Thomas Street; 22 Walmer Road; 26 St. Joseph Street; and 28 Admiral Road.

22 Walmer Road has a density of 2.06 times and is 7 storeys tall. It is a modern interpretation of the bar type, and exemplifies the positive street relationship achieved by widening out the front elevation to create a "hammerhead". As a result of this adaptation, it retains comfortable side yard setbacks. The landscaped front setback works well in this particular context, although it could have been smaller if the context had so dictated.

One of the main difficulties with this particular building occurs at grade, in the northerly side yard, which is paved, presumably for parking. Surface parking at grade creates a definite conflict with this building type and is, in fact, a general concern in relation to each of the three predominant types. Another problem with this building is its blank rear wall. Once again, it should be a general objective to encourage fully fenestrated elevations wherever possible.

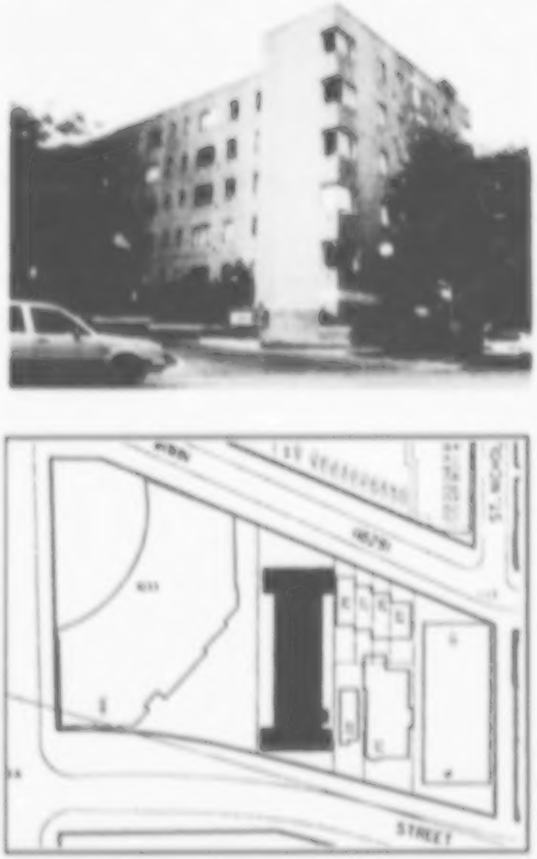




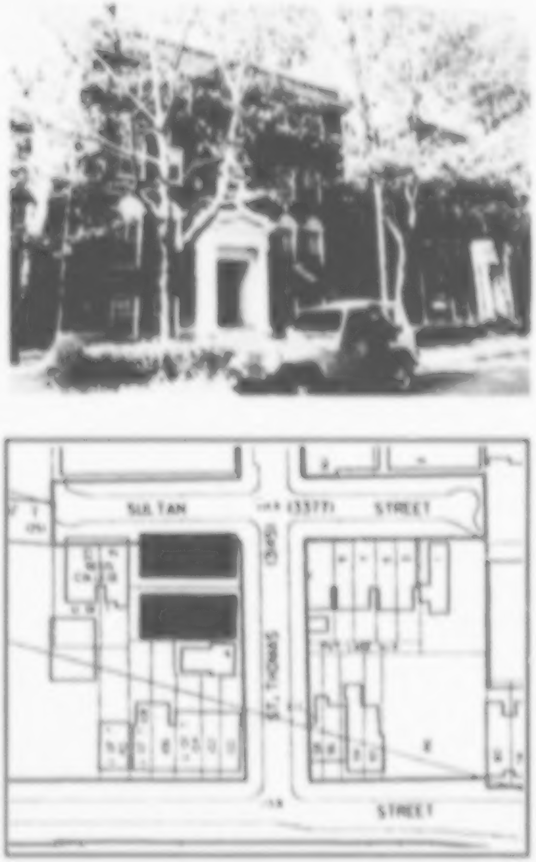
Perpendicular Bar Type Building at 22 Walmer Road

26 St. Joseph has a density of 3.09 times and is 6 storeys tall. It is a very fine example of the bar type in "deco" style. As with the Walmer Road example, this building benefits from the widening of its front, and in this case, rear elevations.

6 and 8 St. Thomas both have a density of 2.6 times, and are 4 storeys in height. They provide an interesting "repeated" example of an older interpretation of this building type. Architecturally, they are very compatible with a house-form environment. These buildings are, however, very tightly sited on the sides and at the rear. While the small side yard setbacks appear quite acceptable from the street because they are landscaped, they would likely be perceived as barely adequate from the perspective of those living in the buildings.

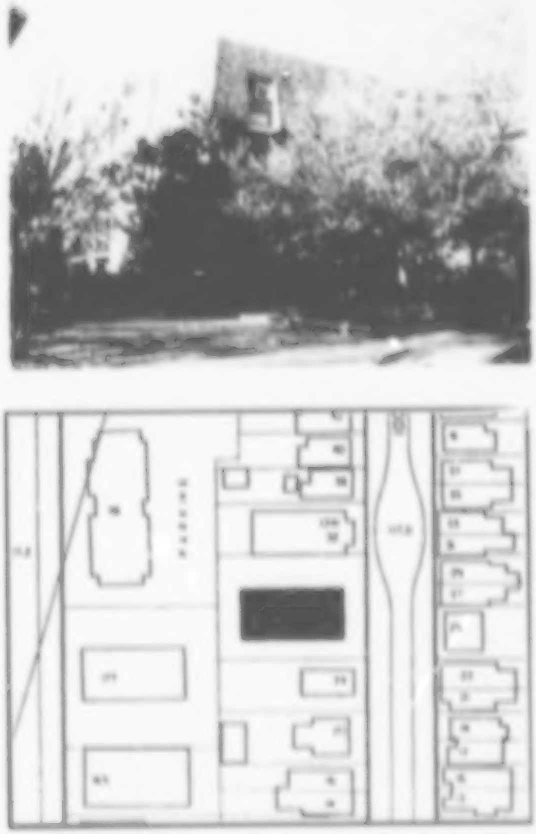


Hammerhead Perpendicular Bar Type Building at 26 St. Joseph Street



"Repeated" Example of Older Perpendicular Bar Type Building at 6 and 8 St. Thomas Street

28 Admiral, which has a density of 1.37 times and is 4 storeys, provides a contemporary example of this building type. Unlike older versions, this bar building is set back considerably from all lot lines. The setbacks are all highly landscaped. This example demonstrates the viability of the bar as a repeatable type, even though the building lacks any particular architectural merit.



Contemporary Example of Perpendicular Bar Type Building at 28 Admiral Road

With underground parking, the side yards on this building are well landscaped, and the small private patio gardens created for the tenants of the grade level units work well. The fairly large front setback has the virtue of adding greenery to the streetfront. While in some circumstances this might lead to a loss of the strong street relationship found in older examples of this type, it works well here because of the considerable front setbacks on adjacent properties.

The Parallel Slab Type

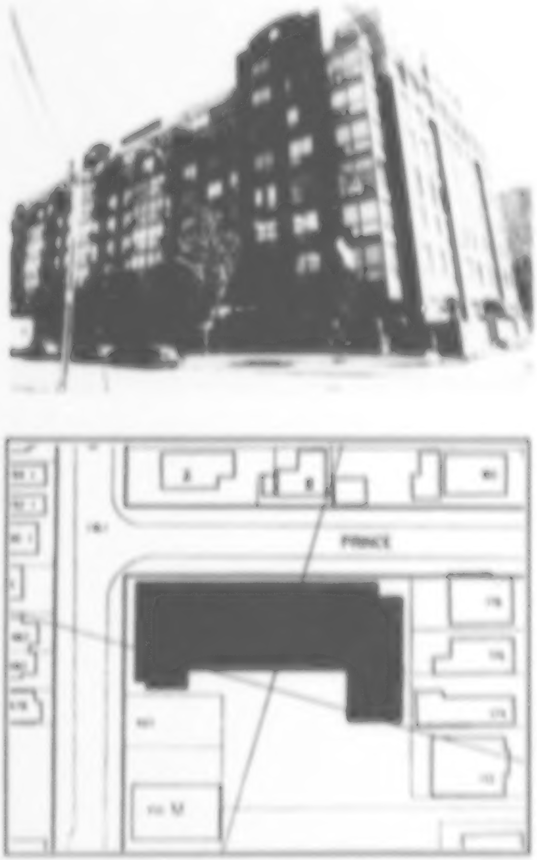
This building type is similar to the bar type in that its general characteristic is a rectangular footprint. However, the slab's orientation is opposite that of the bar's, since it presents its widest profile to the street edge. One of the most important characteristics of this type is its ability to establish a strong presence along the street edge, where this is desirable.

This building type is especially well suited for retail and other active public uses at grade level, making it an ideal Main Streets prototype. In fact, such active grade-level uses can be very important for the success of this building type, since the animation they provide helps guard against the potential risk of a long, monotonous length of unarticulated building, or an improper juxtaposition of private edge and public street.

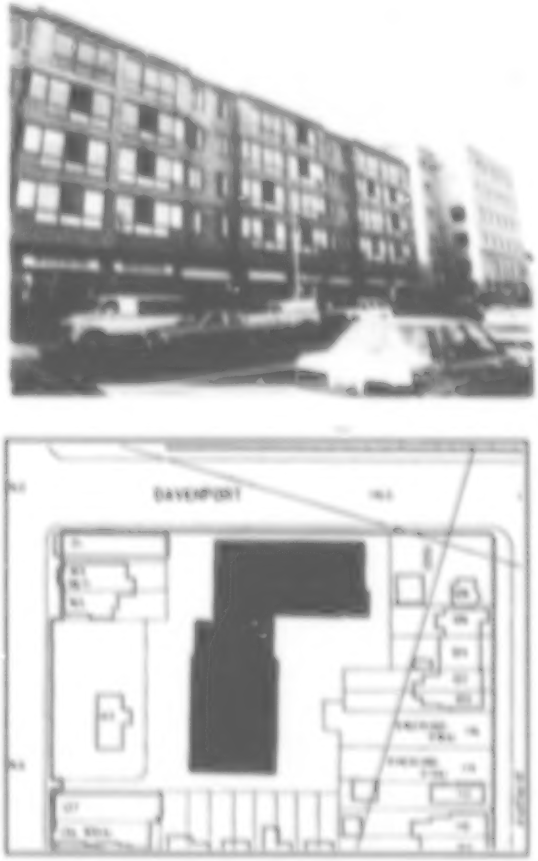
Examples of the parallel slab building type include: 95 Prince Arthur Avenue; and 25 and 85 Henry Lane Terrace. Although 225 Davenport Road is in fact an "L" shaped building due to the irregular configuration of its lot, the portion fronting onto Davenport exemplifies the slab type, and has thus been used to illustrate some of its key characteristics.

95 Prince Arthur has a density of 3.68 times and a height of 8 storeys. The building is well articulated on all elevations, which serves to break down the effect of its very long mass. The location of private open space on the ground level - using a brick privacy wall - is not desirable. This sort of treatment would be even more inappropriate if repeated along an entire streetscape. This example also demonstrates that its 8 storey height may be approaching the maximum at which the streetwall/slab building form can work without becoming overbearing, especially if repeated.

225 Davenport has a density of 2.22 times and is 6 storeys in height. The slab portion of this building (which fronts onto Davenport) very successfully combines retail at grade with residential above, and is thus a prototype for a Main Streets context. This building has the further merit of a well landscaped interior block open space. All parking is located below grade.



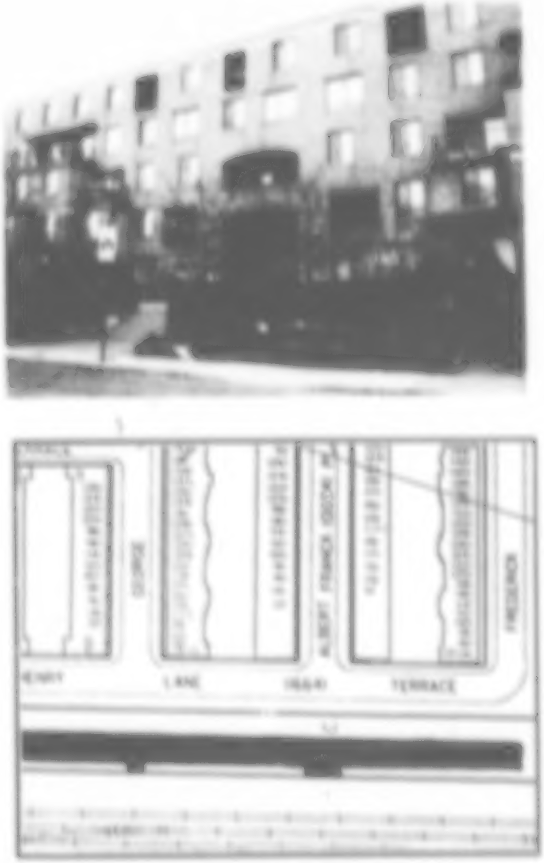
Well articulated Parallel Slab Type Building at 95 Prince Arthur Avenue



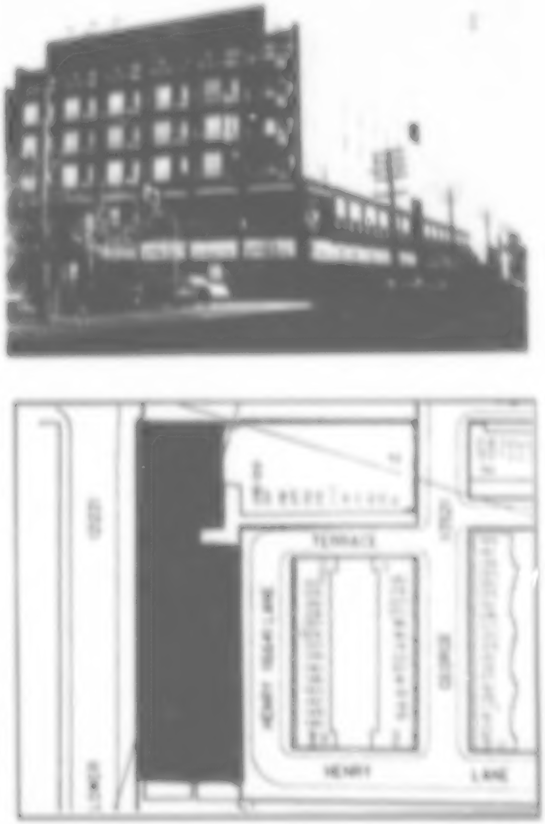
Parallel Slab Provides for Well Animated Street at 225 Davenport Road

85 Henry Lane Terrace has a density of 2.01 times and is 5 storeys tall. 25 Henry Lane Terrace has a density of 3.34 times and contains 6 storeys. These "barrier" buildings are special variants of this type, designed to deal with particular urban conditions. 85 Henry Lane is single-loaded and acts as a buffer from the railway corridor. 25 Henry Lane serves to shield the interior of the neighbourhood from the noise of Jarvis Street, and at the same time establishes an appropriate response to Jarvis Street. It is also a significant mixed-use precedent, combining residential, retail, and two elementary schools.

Both buildings demonstrate the flexibility that is inherent in the concept of "type", as each of these parallel slab buildings has been successfully adapted to meet the requirements of its particular situation.



Parallel Slab Type Building at 85 Henry Lane Terrace



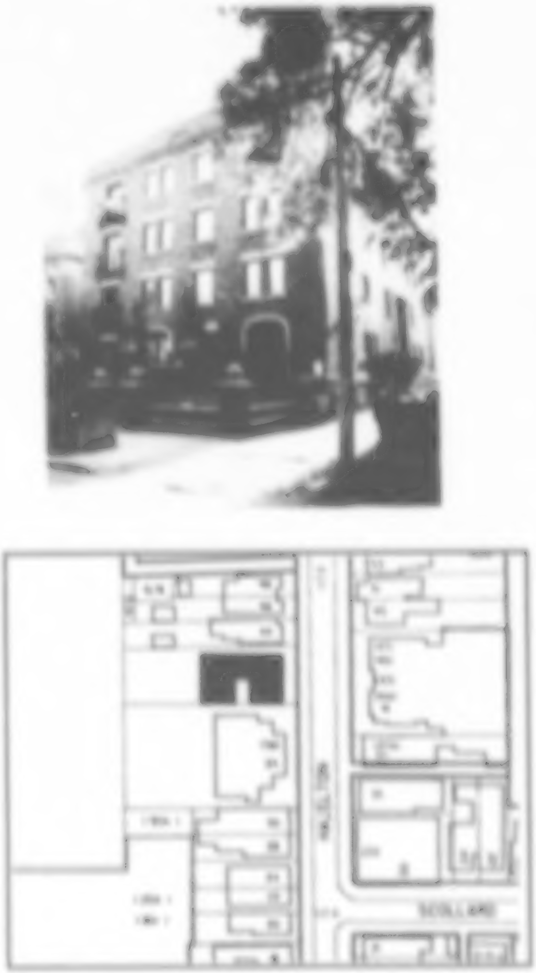
Parallel Slab Type Building at 25 Henry Lane Terrace

The Block Type

As the name implies, this type has the general characteristic of a relatively square footprint. Smaller examples of this type tend to be older, frequently graceful free-standing pavilion buildings, generally about four storeys in height, and often containing just four apartments per floor. More contemporary examples of this type are somewhat larger.

Up to a certain scale, this building type has the general merit of being comparatively compact in footprint, and well proportioned. The block also has the advantage of allowing for windows on all sides, although blank end walls can still be a problem in examples built to side lot lines. This type normally has good contextual relations with adjacent mid to low-rise neighbours. Furthermore, the bulk of this building type is implicitly controlled by the square footprint due to the fact that residential units cannot be too deep, since all principal rooms must receive direct sunlight. This type is, however, generally less common because of its less efficient floor plate configuration (i.e. in terms of the number of units it can yield).

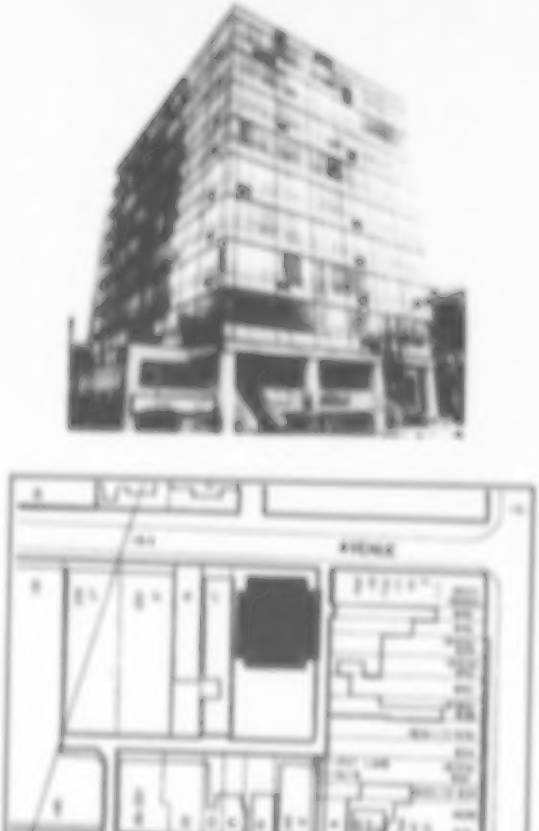
40 Hazelton, which has 4 storeys and a density of 1.35 times, exemplifies the older versions of this type. While this attractive building is very tightly sited, and likely contravenes current setback requirements, it provides a desirable form of housing, in a low-rise form that is very compatible with a residential streetscape. A major fault with this building as a model, however, is that its rear yard is used entirely for surface parking, and both "side yards" are asphalt.



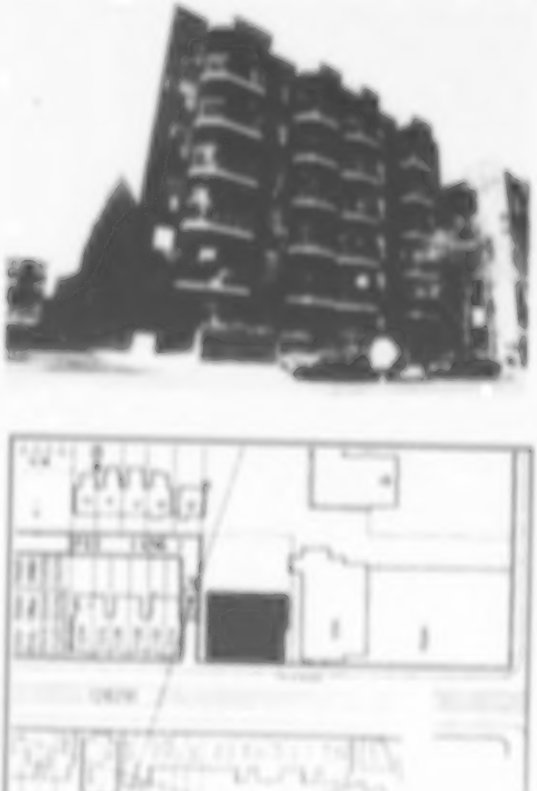
Older Block Type Building at 40 Hazelton Avenue

11 Yorkville, which has a density of 3.72 times and is 9 storeys, is a larger and more modern example of this building type. It has an interesting split-level frontage which seems to work well, although this sort of treatment has been problematic in other contexts. One of its strongest features is that all elevations are fully fenestrated. The minimal side and rear setbacks are, however, something of a concern.

540 Queen East is another contemporary example of the block type. It has a density of 2.83 times, and 6 storeys. The building achieves a fairly good scale relationship with its neighbours. However, there is a problem with its at grade street relationship due to the lack of a public or retail use and the unfortunate presence of barricaded private yards. The building also has problems with blank end walls and the location of surface parking at grade. The small landscaped open space in the rear is fenced off, and thus makes little contribution to the interior of the block.



Contemporary Block Type Building with Split Level Frontage at 11 Yorkville Avenue



Contemporary Block Type Building with Problematic Street Relationship at 540 Queen Street East

In summary, the qualitative analysis carried out for this study indicates that there are a number of building types which work within the defined height/density relationships established. The *perpendicular bar*, the *parallel slab* and *block* or *pavilion* building types provide interesting examples of the sort of repeatable types that underpin an appropriate typology.

3.2 Issues

There are several general issues that manifest themselves across the three building types. The definition of a new typology should recognize and seek to overcome these problems by considering specific performance criteria. These issues are outlined as follows.

First, buildings of this scale have frequently relied upon surface rather than underground parking, which creates a real problem with a trade-off of asphalt over landscaping at grade. Because these smallish buildings tend to be quite tightly sited, the provision of surface parking and side yards which are really just driveways makes for a sea of asphalt when repeated throughout the interior of blocks in the mixed-use areas. There must be strong requirements for landscaping around these building types, and a recognition that surface parking is unacceptable.

Appropriate street relationships must be encouraged. Along arterial streets, public uses are essential at grade. Along the more residential streets, there can be a need for highly landscaped front yards. Private yards, especially when fenced off, are inappropriate in virtually all street edge contexts.

Many of the buildings studied in this analysis had one or more blank end walls. Unfenestrated walls should be avoided wherever possible because of the oppressive and unattractive effect they have on the streetscape and upon their neighbours.

4. ESTABLISHING THE AS-OF-RIGHT THRESHOLD AND BUILDING TYPOLOGY

The threshold or upper limit for new as-of-right development in Toronto should be established at the point at which independently conceived, autonomous projects on separate parcels of land can no longer be repeated along a street or within a block while still producing an appropriate built form composition. The qualitative building analysis described above demonstrates that three appropriate, repeatable building types can be identified in the 2 fsi/6 storey; 3 fsi/8 storey; and 4 fsi/10 storey categories.

In fact, the analysis suggests that each of these building types is generally built with densities below 4.0 fsi, and heights of less than 8 storeys. 11 Yorkville is the only example that exceeds 8 storeys. This suggests that the as-of-right development threshold can in fact be identified at the combination of 4.0 fsi and 8 storeys. In order to provide a little more massing flexibility for as-of-right development, however, it is proposed that this threshold or limit be established at the 4 fsi/10 storey level.

The building analysis demonstrates that, if a building's height and density exceed these levels, it becomes essential to consider it in relation to its surrounding context. In these situations, a comprehensive urban design plan is necessary. The need for such urban design plans, and an outline of their proposed nature, is contained in the following sections of this appendix.

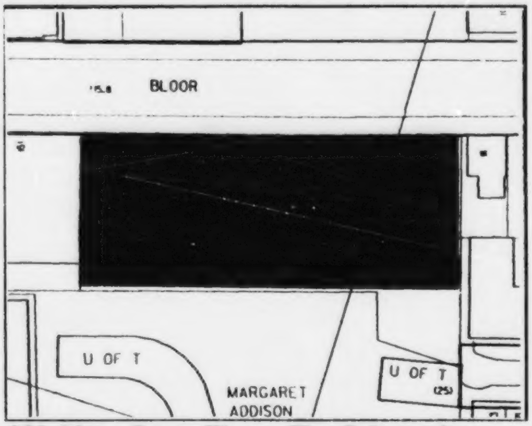
5. BUILDING FORM ABOVE THE AS-OF-RIGHT THRESHOLD

As noted above, beyond the 4 fsi/10 storey level, the concept of repeatable building types breaks down. While buildings above this threshold can still generally be classified as either bars, slabs or blocks, it is clear that the one thing they have in common is a lack of autonomous repeatability because of their increased scale.

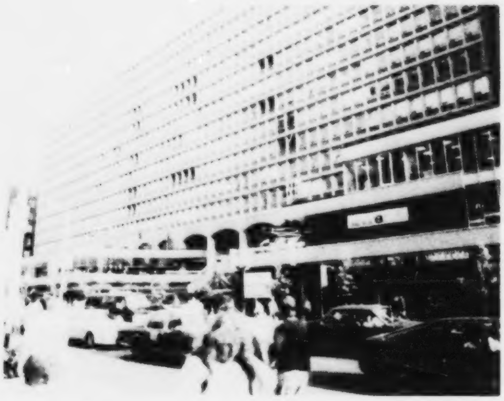
The buildings pictured on the following pages provide a cross section of the range of built form variations which result at density and height combinations above the 4.0 fsi/10 storey threshold. The densities of these buildings range from a low of 5.28 to a high of 8.22, and the heights range between 9 and 27 storeys.

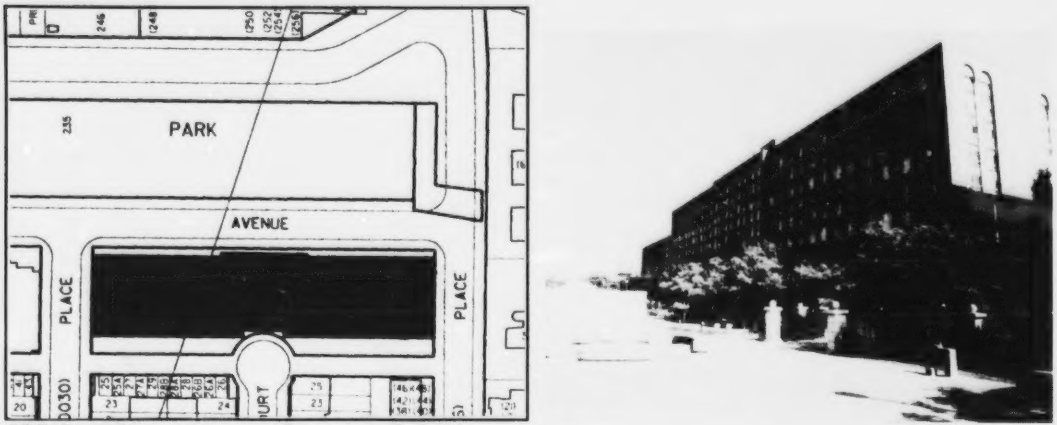
Specifically, the Colonnade has a density of 5.28 times, and is 14 storeys; 125 Scadding has a density of 5.79 times, and is 9 storeys; 250 Jarvis has a density of 5.83 times, and is 10 storeys; 120 Front Street East has a density of 6.20 times and is 10 storeys; 130 Carlton has a density of 6.64 times and is 15 storeys; 25 Maitland has a density of 7.51 times and is 17 storeys; 341 Bloor West has a density of 8.14 times and is 18 storeys; 25 Elm has a density of 8.18 times and is 16 storeys; and Polo 2 (1033 Bay Street) has a density of 8.77 times and is 28 storeys.

The Colonnade; 125 Scadding; 250 Jarvis; 130 Carlton; 341 Bloor; and 25 Elm are all slab buildings, and 120 Front East is in essence a block. However, these buildings do not function in the same way as their counterparts below the 4 fsi/10 storey threshold. Repetition of any of these buildings along a street would create an inappropriate, oppressive composition. At this scale of development, it becomes necessary to consider relationships between higher and lower elements, between solids and voids, and between repeatable building "types" and "individual expressions".

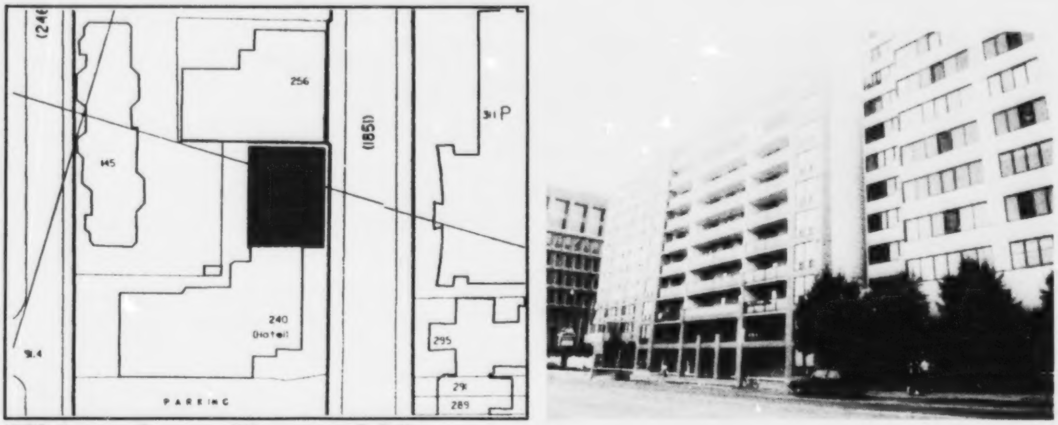


131 Bloor Street West - The Colonnade - 14 storeys/5.3 fsi




PARK
AVENUE
PLACE
PLACE
235
246
248

125 Scadding Avenue - 9 storeys/5.8 fsi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145
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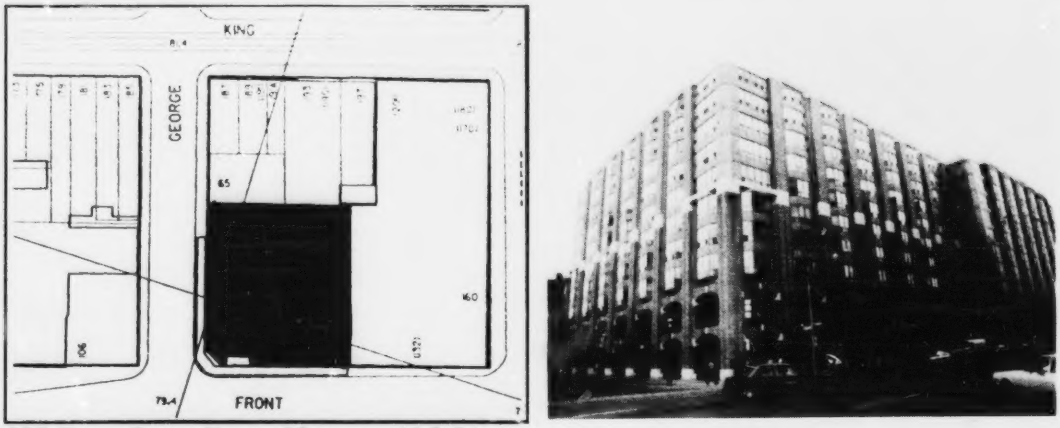
(Hotel)
295
PARKING
311 P
289

250 Jarvis Street - 10 storeys/5.8 fsi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GEORGE
FRONT
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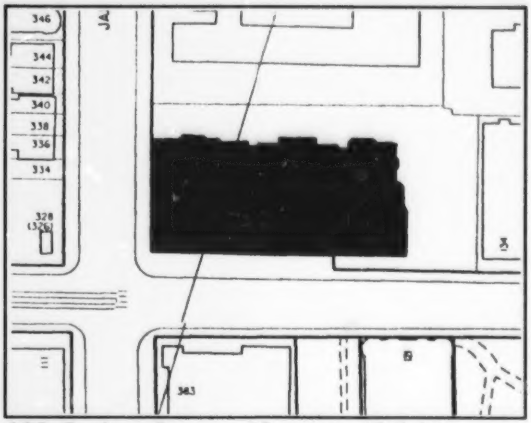
106
160

120 Front Street East - 10 storeys/6.2 fsi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(326)
134
111
383
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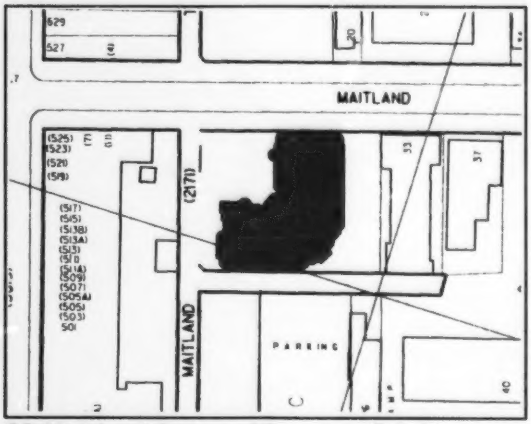
130 Carlton Street - 15 storeys/6.6 fsi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MAITLAND
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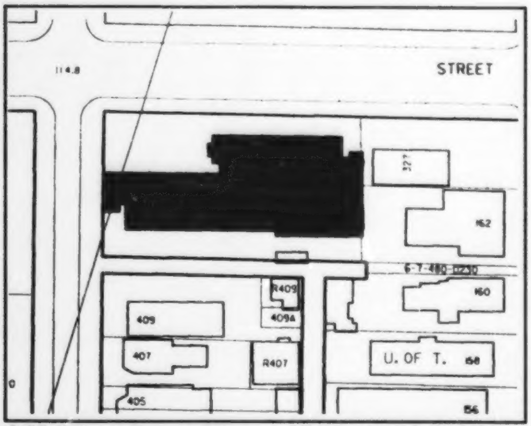
501
MAITLAND
PARKING
40

25 Maitland Street - 17 storeys/7.5 fsi


STREET
114.8
327
162
6-7-480-0230
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160
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409A
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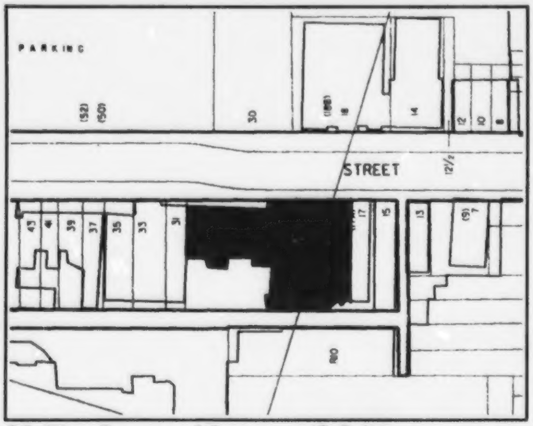
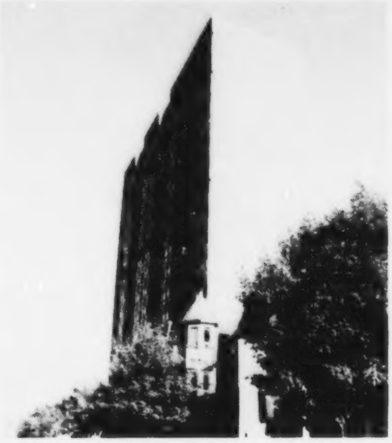
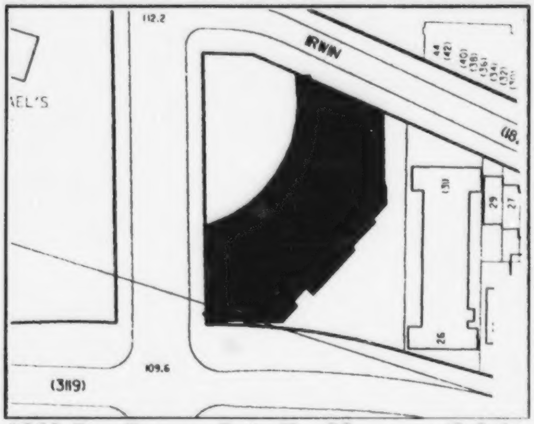
158
405
156

341 Bloor Street West - 18 storeys/8.1 fsi



25 Elm Street - 16 storeys/8.2 fsi





1033 Bay Street - Polo II - 28 storeys/8.8 fsi

5.1 The Urban Design Plan

The use of urban design plans to program more complex urban development into the city is certainly not a new method in Toronto. The successful nature of the St. Lawrence Market district including the St. Lawrence neighbourhood, the Front Street residential and mixed-use neighbourhood, and the historic area around Berczy Park results from a consistent attitude towards an urban design plan for the area. In this case, relationships of public open space and the massing of buildings were carefully resolved around a framework of historic landmarks.

There are many other examples of the use of urban design plans to control specific high density development projects, including the Rector Place Development in South Battery Park City, New York. Here, the identification of development envelopes, defined by width, bulk and height; the illustration and understanding of the extension of the existing street infrastructure system; and the expansion of the public open space system merged with some very well identified clues as to the contextual nature of the surrounding buildings, to provide an excellent framework for the development of a new residential neighbourhood of significant density. The plan allowed resolution of those aspects of urban form that are not related to architecture to occur well in advance of specific architectural design.

An urban design plan involves a comprehensive examination of a given site in relation to its context, while testing proposed development types against a set of clearly defined criteria. Such an urban design plan is intended to review those aspects of the contextual urban form upon which the new development would have an impact. These plans are the proposed mechanisms for enabling appropriate development to occur above the 4 fsi/10 storey threshold.

Design plans should address the following issues:

1. Review of the ground plane within which the site is located. It is important to undertake this analysis over a site area that is large enough to pick up the most important features of a given neighbourhood. This may include relating the site back to a main street or a major intersection, any major transit or transportation facility, landmark buildings, or public open spaces.

2. Analysis of the contextual area, to understand the current composition of solids and voids. If, for example, the context is a continuous mixed-use, mid-rise neighbourhood, the urban design plan should demonstrate characteristics of this relationship to be reflected in the development plan. The location of "greater than contextual heights" must be rationalized in terms of their impact on the larger system and the contribution of the landmark buildings to the area.

3. Identification and inclusion of any important heritage or historically significant components, structures or buildings on the site.

4. Review of the site's relationship to the existing city street system. Consideration should be given to the height of buildings in comparison to the width of the street right-of-ways and to the possibility of a logical extension of the city street system onto the site.

5. Consideration of the relationship of the site to surrounding courtyards, lanes, passages, and mid-block interior connections and visual corridors.

6. Consideration of the site's interaction with any existing public spaces or parks, and review of the need for new or extended public spaces that could be created by the plan.

7. Review of the specific environmental impact of a site development with respect to sun penetration to streets and open spaces, wind and microclimatic effects.

8. Undertaking of specific studies which review a range of possible built-form massing over the site, to determine the most appropriate height and density relationship.

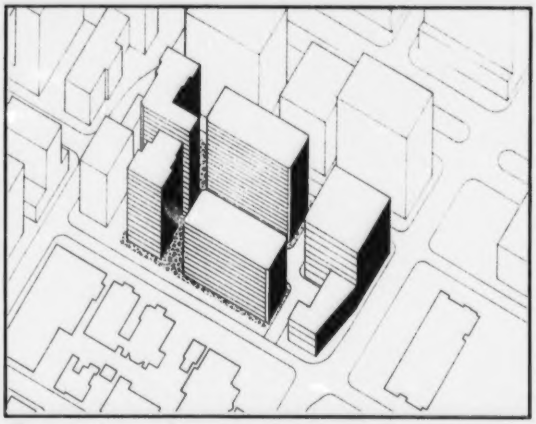
On the following pages, we have illustrated the type of massing exercise appropriate as one component of an urban design plan. These massing studies were undertaken for four of the case study buildings (analyzed for the report) that exceed the proposed as-of-right development threshold of 4 fsi/10 storeys. It was not the intention of this exercise, however, to demonstrate the potential of a full-fledged urban design study on an area-wide basis, nor to create the definitive solution for any of these particular sites. The intention was rather to explore the limitation of such an exercise when carried out on the basis of a single site.

This type of massing study should be done in conjunction with the seven other urban design plan elements elaborated above in order to allow for an appropriate distribution of development potential above the threshold level on a wider contextual basis. This broader consideration must take into account the relationships between buildings and open spaces and between higher and lower forms. The area of consideration must go beyond the confines of a single property. It is not surprising, therefore, that the four exercises presented on the following pages do not on their own necessarily reach satisfactory built form conclusions, as they deal only with massing on a single site, and do not address such issues as the nature of the surrounding context or neighbouring open spaces.

The four examples in this analysis include: One Park Lane, a grouping of residential slab buildings with an office building; the Lexington, a slab with parallel orientation to an east/west street; 111 Chestnut, a combination slab and three storey building; and Polo I and II, expressed as corner high-rise towers.

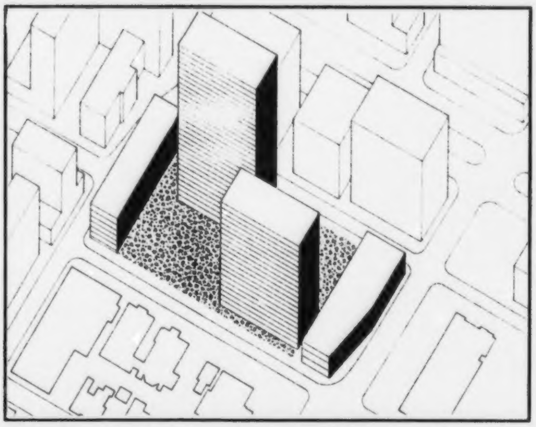
Alternative Massing Studies for One Park Lane

Existing



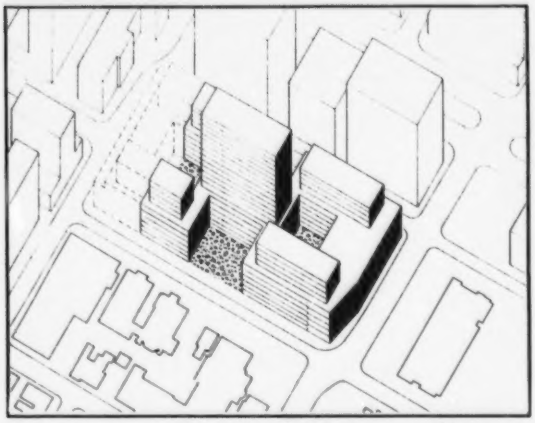
The existing configuration deploys 6x density in three slabs (10-16 storeys) around a centre lobby and entry court. This grouping is excessively introverted, turns its back to the street and generates awkward, residual open spaces.

Alternative A



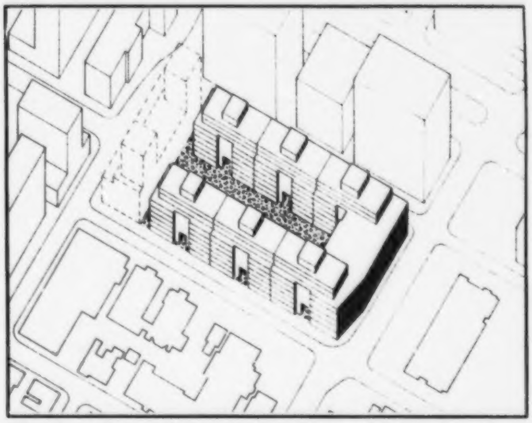
A different, but equally anti-urban, configuration would consist of two slabs (20 and 30 storeys) set in open space.

Alternative B



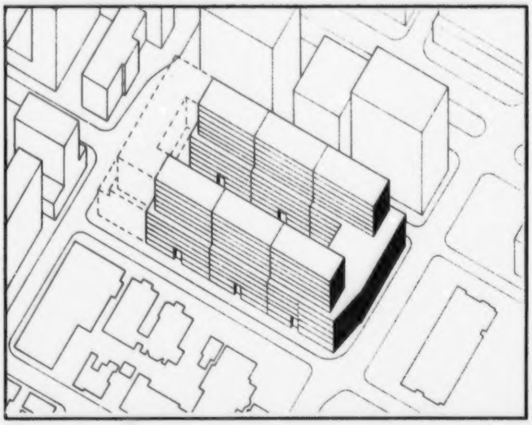
A more urban and street-related form would consist of street-related buildings (6 + 4 storeys) and a central slab (6 + 14 storeys) that create forecourts on St. Patrick and Simcoe and mid-block courtyards.

Alternative D



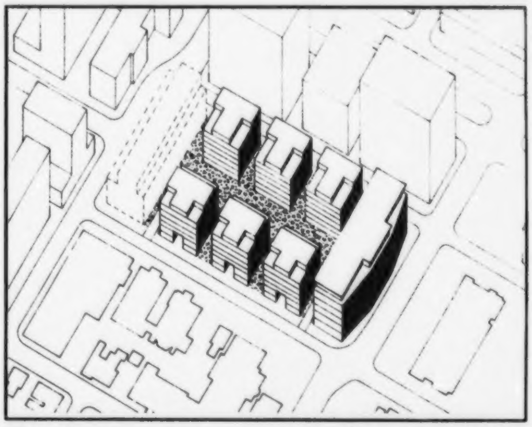
The first three alternatives suggest that the density is too high to achieve an acceptable urban building form on this block, despite the generous dimensions of the block. A more acceptable building form would consist of perimeter block buildings of eight to nine storeys which would provide a density of about 5x.

Alternative C



The same density can be configured as perimeter block building types of twelve storeys. This would create a central courtyard for shared use. Unfortunately, at this height, the courtyard would be overwhelmed and sun would be limited somewhat.

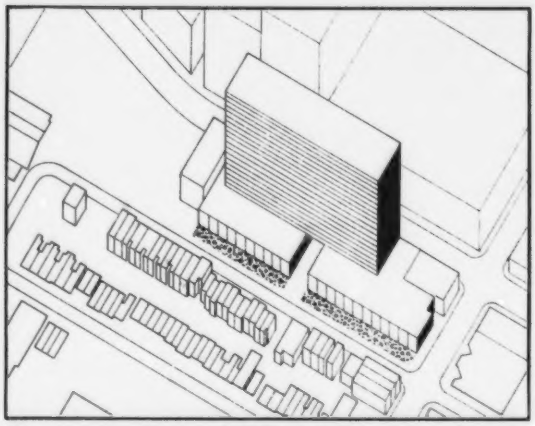
Alternative E



This alternative demonstrates that if greater flexibility and variety of building forms are desired, then the density should not be greater than 3.5x to 4.0x.

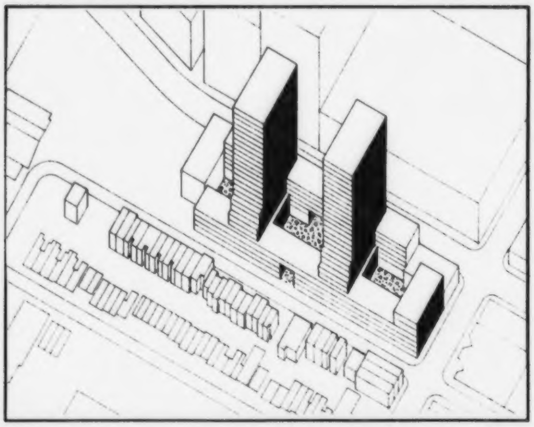
Alternative Massing Studies for The Lexington

Existing



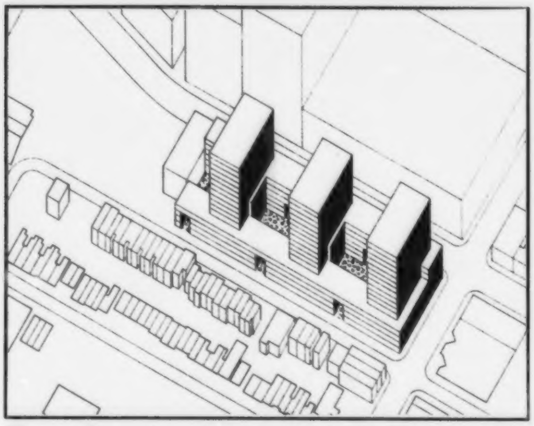
The existing density of 7.7x is deployed as a long 2[illegible] storey slab running parallel to Carlton with three storey townhouses as a base on Granby. The slab overshadows and overwhelms Carlton.

Alternative A



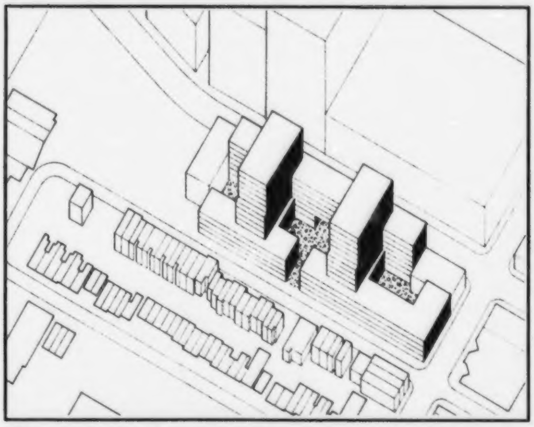
This alternative maintains the density but uses a four storey building on Granby and a six storey building on Carlton. Two short slabs run north-south and divide the central courtyard into three parts, the central one being public. The slabs, however, are 25 storeys high and still create environmental problems.

Alternative B



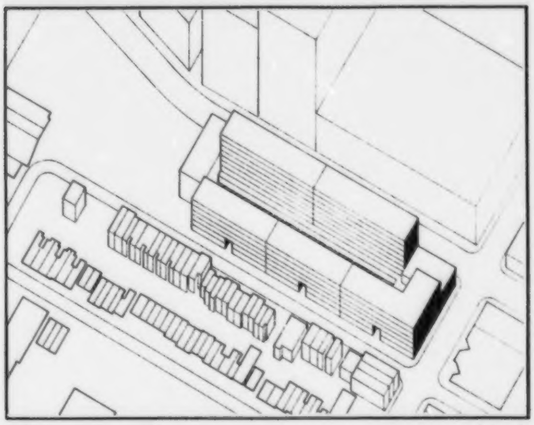
The configuration of Alternative A was constrained by the building at the corner of Carlton and Church. Had this property been consolidated with the development, it would have been possible to use three parallel slabs, thereby reducing their height to sixteen storeys. However, even these would create unacceptable conditions.

Alternative C



The previous alternatives demonstrate that the density is too high given the size, dimensions, and configurations of the site. At 4.0x coverage, a more reasonable configuration is achievable, on the same basic scheme as Alternative A.

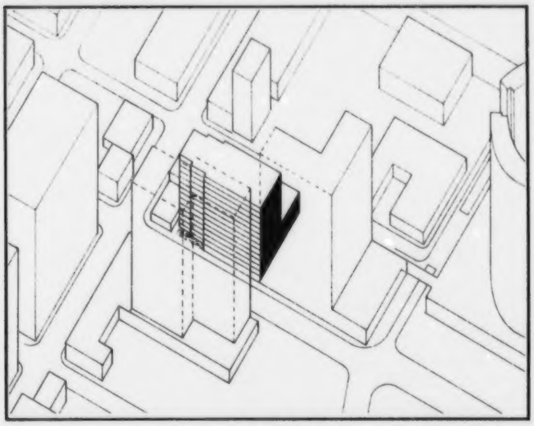
Alternative D



Also at 4.0x coverage, a perimeter block configuration could be achieved with six and eight storey buildings. This would create good streets and environmental conditions.

Alternative Massing Study for 111 Chestnut

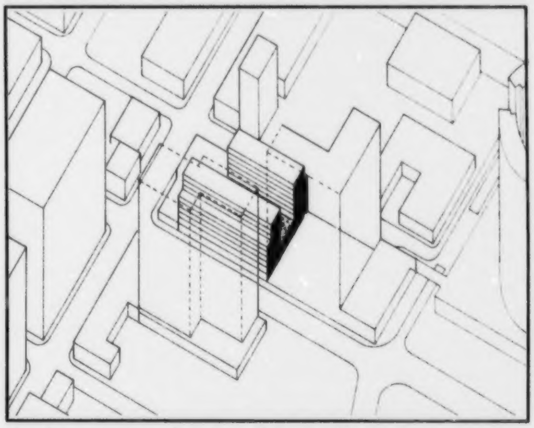
Existing



The existing building is 5.8x density and arranged as a three storey building off Elizabeth, and a fourteen storey slab on Chestnut. The slab overwhelms and overshadows the street.

At a reduced density of approximately 4.5x, a more conventional slab could be used, with a maximum height of ten floors and a big setback above the sixth floor.

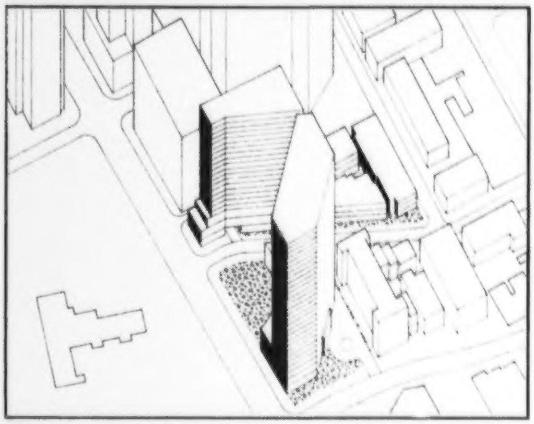
Alternative A



At the existing density, this configuration uses two nine storey buildings with a raised courtyard between them. While the height and vertical setbacks improve the street conditions, the narrowness of the block limits the buildings to being single-loaded corridor types and creates an unusual size and kind of courtyard.

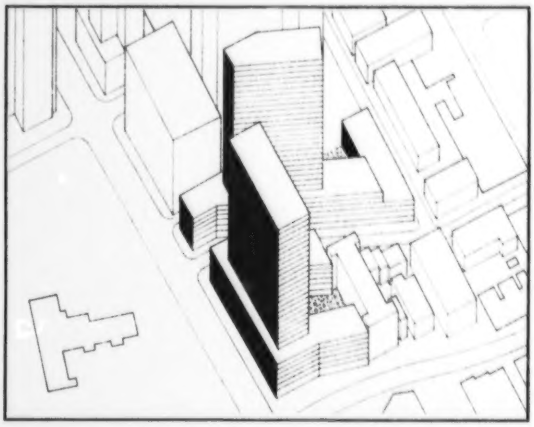
Alternative Massing Studies for the Polo Club

Existing



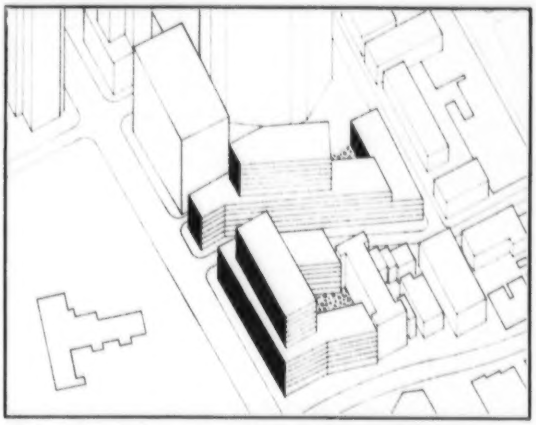
The existing density of 7.1x and 8.8x is deployed as two high-rise slabs (22 and 28 storeys) and several sets of three storey townhouses. The slabs overwhelm the street, overshadow open spaces and create uncomfortable winds.

Alternative A



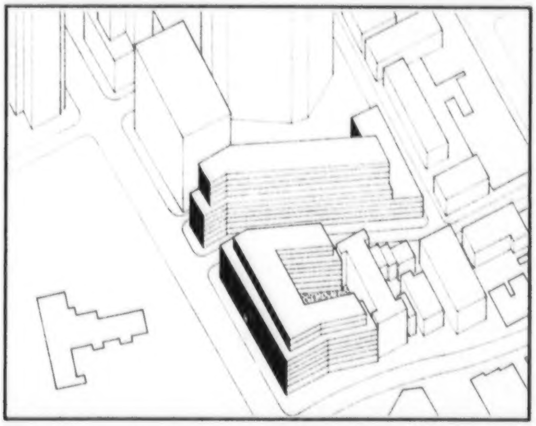
At the same density, this configuration uses a more consistent streetwall building type with appropriate setbacks, but still results in unacceptably tall high-rise slabs. This reveals that the existing configuration is already efficient in its coverage of the site, and that the density is too high to achieve acceptable built form.

Alternative B



This alternative uses the same configuration of buildings as Alternative A, but to a maximum of twelve storeys, with appropriate setbacks above six floors. The resulting density is 4.5x to 5.0x; this represents the upper limit of density on this site.

Alternative C



This alternative demonstrates that Alternative B could be rearranged to spread the bulk of the tall portions over more of the site, so as to reduce the overall height to eight floors.

6. CONCLUSION

The nature and form of new development in Toronto requires positive direction from the City. Specifically, there is a need for the City to play a proactive role in optimizing the quality of all new development. Much greater emphasis must be placed on built form. The general premise underlying the Living Downtown study has been that heights and densities for as-of-right development must be kept lower than they have been in the past.

In order to achieve appropriate development, there is a need for the City to develop a framework or "typology" which can be used as a positive directional tool to inform developers of the City's built form objectives for specific parts of the downtown. To this end, this appendix has sought to accomplish three important things: (1) to attain an understanding of feasible and predictable relationships between height and density; (2) to identify an appropriate "cut off" point or threshold for as-of-right development provisions; and (3) to establish a mechanism for determining an appropriate form for developments with heights and densities that exceed the threshold.

As such, this appendix has established a series of workable relationships between height and density, the most pertinent of which include the pairings of 2 fsi/6 storeys; 3 fsi/8 storeys; and 4 fsi/10 storeys. The qualitative building analysis carried out within the hypothesized height and density pairings revealed three common building types - the perpendicular bar, the parallel slab, and the block or pavilion.

This qualitative building analysis also allowed for the identification of the most appropriate as-of-right development threshold. The buildings studied indicated that this cut off point falls at about the 4 fsi/8 storey range. However, in order to allow more flexibility for as-of-right development, it is suggested that the height threshold be located at 10 storeys, and that this height limit be paired with an fsi of 4.0. The final component of this appendix describes the nature of the urban design plan in some detail. The urban design plan is the proposed mechanism for achieving optimum built form in the case of developments which exceed the 4 fsi/10 storey threshold.